AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
	1		3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0005	25 April 2002		

6. ISSUED BY	CODE	7. ADMINISTERED BY *(If other than Item 6)*	CODE
US ARMY ENGINEER DISTRICT, FORT WORTH ATTN: CESWF-CT (RM 2A19) PO BOX 17300 FORT WORTH, TX 76102-0300			

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*	(X)	9A. AMENDMENT OF SOLICIATION NO.
		DACA63-02-R-0007
	☒	9B. DATED *(SEE ITEM 11)* 15 JANUARY 2002
	☐	10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED *(SEE ITEM 11)*
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☒ is extended, ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a)By completing items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (*Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

The Request for Proposal for Design-Build Consolidated Library and Education Center, Fort Polk, Louisiana, is amended as follows:

See Continuation Sheets.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		*(Signature of Contracting Officer)*	

Item 14. Continued.

CHANGES TO VOLUME I – PROJECT INFORMATION, BIDDING REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT

1. Standard Form 1442, First Page, Item No. 13.A.- In the second line, change the receipt of proposal date and time from "2 May 2002 at 4 pm local time" to "9 May 2002 at 4 pm local time."

2. Replace the Price Proposal Schedule, pages 00010-3 through 00010-5, with the accompanying new Price Proposal Schedule, bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007."

CHANGES TO VOLUME II – DESIGN AND PERFORMANCE REQUIREMENTS

3. Replacement Chapters.- Replace the following chapters with the accompanying new chapters of the same number and title, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007:"

CHAPTER 111 - FACILITY PERFORMANCE
CHAPTER C16 - INTERIOR FINISHES
CHAPTER D52 - SERVICE AND DISTRIBUTION
CHAPTER D7 - TELECOMMUNICATIONS
CHAPTER D73 - TELEVISION
CHAPTER G28 - GENERAL CIVIL DESIGN AND SITE REQUIREMENTS
CHAPTER G34 - ELECTRICAL POWER

CHANGES TO VOLUME III– SPECIFICATIONS

4. Replacement Section.- Delete SECTION 01770 – CONTRACT CLOSEOUT and replace with the accompanying new SECTION 01770 – CONTRACT CLOSEOUT, bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007:"

CHANGES TO VOLUME IV – ATTACHMENTS

5. New Attachment - Add the following accompanying new attachment, bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007," and add to the Table of Contents:

ATTACHMENT L - FLOW TEST DATA

6. Replacement Attachments.- Replace the following attachments with the accompanying new attachments of the same number and title, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007."

ATTACHMENT A - SPACE BUBBLE DIAGRAM
ATTACHMENT B - SCHEDULE OF AREAS
ATTACHMENT C - ROOM FUNCTIONAL REQUIREMENTS

CHANGES TO DRAWINGS

7. Drawing Clarification, C1 Project Location Map.- Add the following note:

“The road added by Amendment #0004 is a future road to be provided by others.”

END OF AMENDMENT

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007

Design-Build Ft Polk Consolidated Library/Education Center
Fort Polk, Louisiana

Solicitation No.DACA63-02-R-0007

PRICE PROPOSAL SCHEDULE
(To be attached to SF 1442)

BASE BID: All work required by the Contract documents for the design and construction of the Ft Polk Consolidated Library/Education Center exclusive of work required by Option Bid Items.

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
0001	All work to design and construct the Consolidated Library/Education Center, Complete, including a HVAC system other than a ground heat pump system, utilities to the 5-foot line, to the 5-foot line and exclusive of all other work listed separately.	Sum	Job	***	$_____
0002	Construct all Exterior Work outside the building's 5 foot line (Including utilities to the Fort Polk utility tie-in, earthwork, paving sidewalk, parking lot paving, curb and gutter, turfing, landscaping, and all other work not listed separately)	Sum	Job	***	$_____
0003	Final Record Drawings	Sum	Job	***	$ 50,000.00

TOTAL BASE BID $_____

0004 OPTION NO. 1:
Additional cost for all work required by the Contract documents for design and construction of a HVAC ground heat pump system in lieu of the system used in the Base Bid.

		Sum	Job	***	$_____

TOTAL OPTION NO. 1 $_____

TOTAL BID (BASE BID PLUS OPTION NO. 1) $_____

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007

Design-Build Ft Polk Consolidated Library/Education Center
Fort Polk, Louisiana

Solicitation No.DACA63-02-R-0007

PRICE PROPOSAL SCHEDULE

0005 Completion Time for all work (not to exceed the maximum time stated in Section 01000 DESIGN AND CONSTRUCTION SCHEDULE)

PROJECT COMPLETION TIME: _____ Calendar Days

NOTES:

1. ARITHMETIC DISCREPANCIES (EFARS 14.407-2)

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

(1) Obviously misplaced decimal points will be corrected;

(2) In case of discrepancy between unit price and extended price, the unit price will govern;

(3) Apparent errors in extension of unit prices will be corrected; and

(4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

2. If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

3. Bidders must bid on all items.

4. Costs attributable to Division 01 - General Requirements is assumed to be prorated among bid items listed.

5. Responders are advised that this requirement may be delayed, cancelled or revised at any time during the solicitation, selection, evaluation, negotiation and/or final award process based on decisions related to DOD changes in force structure and disposition of the Armed Forces.

PRICE PROPOSAL SCHEDULE

NOTES: (cont)

6. EXERCISE OF OPTIONS (SWDR 715-1-1 (16 January 1996))

The Government reserves the right to exercise the option(s) by written notice to the Contractor either singularly or in any combination for up to 90 calendar days after award of the Base Bid without an increase in the Offeror's Bid Price. Completion of added items shall continue at the same schedule as the Base Bid unless otherwise noted in Section 01000 DESIGN AND CONSTRUCTION SCHEDULE, paragraph 1 entitled SCHEDULE.

7. The Army will procure this facility through a design and cost competition in accordance with the provisions set forth in this Request for Proposals (RFP). When a contract is awarded, it will be a "Firm Fixed Price Contract."

8. The Congress, in authorizing and funding this contract, has established certain cost limitations for the project. The current authorization for the complete design and construction of this project is **[Am #0005]$9,700,000.00.** Proposals that exceed this funding limit after exercising any options may be rejected. Submission of desirable alternative features exceeding minimum requirements may be considered as long as award can be made within the established funds.

9. Any proposal that is materially unbalanced as to prices for the Base Schedule may be rejected. An unbalanced proposal is one that is based on prices significantly less than the cost for some work and prices that are significantly overstated for other work and can also exist where only overpricing or underpricing exists.

END OF PRICE PROPOSAL SCHEDULE

CHAPTER 111

FACILITY PERFORMANCE

PERFORMANCE

A. Basic Function:

1. Provide built elements and site modifications as required to fulfill needs described in the project program.

2. The complete project comprises the following elements:
   a. Substructure (A): Elements below grade and in contact with the ground.
   b. Shell (B): The superstructure, exterior enclosure, and the roofing.
   c. Interiors (C): Interior construction, stairs, finishes, and fixtures, except fixtures associated with services and specialized equipment.
   d. Services (D): Mechanized, artificial, automatic, and unattended means of supply, distribution, transport, removal, disposal, protection, control, and communication.
   e. Equipment and Furnishings (E): Fixed and movable elements operated or used by occupants in the functioning of the project.
   f. Demolition (F): Removal of unneeded and undesirable existing elements. Storm water pollution prevention at the disturbed site.
   g. Sitework (G): Modifications to the site, site improvements, and utilities.

3. Code: Make all portions of the project comply with the code. The code referred to herein consists of all applicable local, State, and federal regulations, including those listed below:
   a. **(AM#5) In the event of conflict and inconsistency between any of the provisions of the various codes, standards, or references, precedence shall be given in the following order:**
      1) **Contract requirements**
         a) **The code, standard, or reference that is listed in the Contract design or performance requirement;**
         b) **When conflict exists between references, the more stringent requirement shall govern;**
         c) **Where a particular design aspect is not covered by any of the codes, standards, or references listed, nor by the requirements specified in the Contract, the Contractor shall be guided by other nationally recognized and accepted codes or standards which do apply;**
         d) **The "authority having jurisdiction," as cided in codes, standards, or references, will be the Contracting Officer.**
      2) **Installation Design Guide**
      3) **Southwestern Division's Architectural and Engineering Instructions Manual (AEIM)**
      4) **Technical and Engineering Manuals, Instructions, Letters, Design Guides, Engineer Regulations, Pamphlets, and Bulletins.**
   b. Federal Regulatory Requirements:
      1) Americans with Disabilities Act of 1990, as a public accommodation, as implemented in:
         a) 28 CFR 35, Department of Justice regulations relating to State and local governments, including ADAAG.or UFAS(FED-STD-795).
         b) 28 CFR 36, Department of Justice regulations, including ADAAG-1994.
         c) 49 CFR 27, 37, and 38, Department of Transportation regulations, including ADAAG-1994.
      2) 29 CFR 1910-1997, Occupational Safety and Health Standards, as a work place.
      3) MIL-HDBK-1008C (10 June 1997) Fire Protection For Facilities Engineering, Design and Construction
      4) DG1110-3-112 Design Guide For Army Continuing Education System Centers
      5) DG1110-5-110 Design Guide For Army Libraries

c. State of Louisiana regulatory requirements, which incorporate and/or amend the following:
   1) **deleted (Am#4)**
   2) Erosion and sedimentation control regulations.
d. Non-Regulatory Criteria Documents: In addition to specific regulatory requirements, the following documents are also incorporated into the definition of "the code" for the purposes of this project, except for administrative provisions contained therein; where referenced, the role of the code official described in the document will be performed by Government.
   1) NFPA 70-2002, National Electrical Code.
   2) NFPA 101-2000, Safety to Life From Fire in Buildings and Structures.
   3) ICC International Building Code, 2000 edition.
   4) ICC International Plumbing Code, 2000 edition.
   5) ICC International Mechanical Code, 2000 edition.
   6) ICC International Fuel Gas Code, 2000 edition.
   7) Fort Polk Installation Design Guide
   8) SWD Architectural and Engineering Instructions Manual (SWD-AEIM), October 2000
   9) **DOD Interim Anti-Terrorism/Force Protection Construction Standards, December 1996. Am #0005.**
e. Occupancy: The primary occupancy of the project, according to the code, is Use Group E (Educational).
   1) A secondary occupancy, according to the code, is Use Group A (Assembly).

4. Environmentally Responsible Design: In addition to other requirements, provide design and construction that minimizes adverse effects on the exterior environment, enhances the quality of the indoor environment, and minimizes consumption of energy, water, construction materials, other resources, and protection of workers. Design comply with SWD-AEIM, Chapter X11, Enviromental Design. All pre-construction permits, notification, licenses and initial operation permits and related fees is in accordance with applicable Federal, state, and local regulations.
   a. Achieve at least a Silver rating in accordance with Sustainable Project Rating Tool (SPiRiT) which is derived from The U. S. Green Building Council LEED 2.0 (Leadership in Energy and Environmental Design) Green Building Rating System; selection of specific credits to achieve is the responsibility of Contractor unless otherwise indicated; comply with criteria specified in current Sustainable Project Rating Tool (SPiRiT) documentation as well as related criteria specified in other chapters.
   b. The goals listed below are some of those that are applicable to the project.
      1) The goals indicated as "desirable" will be given high priority in evaluating proposals, as specified in Sections 00120 PROPOSAL SUBMISSION REQUIREMENTS and 00150 PROPOSAL EVALUATION AND CONTRACT AWARD.
      2) The goals indicated as "if possible" must be achieved if the design and site considerations allow.
      3) The goals indicated "as specified" have different requirements specified in other Chapters.
   c. Site Selection: The site:
      1) Is not prime agricultural land, public parkland, lower than 5 feet above the 100-year flood, habitat for threatened or endangered species, or within 100 feet of wetland.
      2) Is located in an area of existing development with infrastructure services.
   d. Water Conservation:
      1) Landscaping requiring no potable water for maintenance: Desirable.
      2) Reduction of potable water use for sewage conveyance: Required.
      3) Reduction of water used by plumbing fixtures, appliances, and equipment, in excess of regulatory requirements: Desirable.
   e. Energy Conservation:
      1) Energy efficiency exceeding minimum by 10 percent: Desirable.
   f. Conservation of Materials and Resources:
      1) Recycling and/or salvaging of construction waste: Required.
      2) Use of materials containing recycled content: Desirable.
      3) Use of local/regional materials: Desirable.
      4) Use of rapidly renewable materials: Desirable.

5) Use of certified wood: Required.

g. Indoor Environmental Quality:
1) Smoking will be prohibited in the building.
2) Minimum ventilation performance: Required.
3) Carbon dioxide monitoring and control: Not Required.
4) Use of materials that are low-emitting, non-toxic, and chemically inert: Desirable.
5) Control of sources of indoor pollutants: Desirable.
6) Individual occupant control of environmental systems: If possible.
7) Individual occupant control of lighting systems: Required.
8) Thermal comfort conditions: As specified.
9) Provision of daylighting: As specified.
10) Provision of views to outdoors: Desirable.
11) Humidity control: Required.

h. Substantiation:
1) Design Development and Construction Documents Stages: SPiRiT Checklist annotated to show status of design related to specific credits to be achieved and a comprehensive checklist of certification document specified in SPiRiT Reference Guide annotated to show status of preparation of documentation.
2) Design Development and Construction Documents Stages:
a) LEED Checklist annotated to show specific credits status of design related to specific credits to be achieved.
b) Appropriate documentation relevant to the degree of completion of the design; at subsequent design stages it will not be necessary to repeat submissions of the same documentation unless the design has changed.
3) At Completion: Field tests demonstrating compliance with any criteria that is not possible to substantiate until completion. SPiRiT Certification.

5. In addition to the requirements of this chapter, comply with requirements of Chapter 1 - Program Summary, Chapter 11 - Program, and Chapter 00830 - Design and Construction Procedures.

B. Health and Safety:

1. Prevention of Accidental Injury: As required by code and as follows:
a. Safety Glazing: As defined by 16 CFR 1201; provide in locations required by code.
b. Other requirements specified in other Chapters.
c. Substantiation:
1) Design Development: Identification of safety measures taken, detailed description of design criteria, and structural analysis of load-resisting elements prepared by licensed structural engineer.
2) Construction Documents: For load-resisting elements, structural design calculations and drawings sealed by licensed structural engineer.

2. Lightning Hazard: Design to prevent damage to occupants, structure, services, and contents due to lightning strikes if a lightning protection risk analysis produces a "moderate" or higher risk.
a. Provide protection equivalent to that specified in NFPA 780-1997; supplementary strike termination devices, ground conductors, and grounding electrodes are required only where the integral portions of the structure cannot perform those functions.
b. Ground Resistance Measurement Methods: As described in IEEE 81-1983.
c. Substantiation:
1) Design Development: Description of engineering basis of design, including grounding terminal design.
2) Design Development: If grounding in very shallow or dry soil, or in rock, is required, ground resistance measurements and engineering analysis of ground terminal design.
3) Design Development: Diagrams showing locations of strike (air) terminals and zones of protection; identification of internal components that require bonding to equalize potential.
4) Construction Documents: Engineering analysis of equalization of potential to metal

bodies within the structure.

5) Construction Documents: Drawings showing locations and sizes of conductors, bonding of metal bodies, and components; detailed installation specifications.
6) Commissioning: Continuity tests for grounding conductors, equipotential bonding of other systems, and ground terminals; ground resistance test for each ground terminal, or equivalent taking into account related grounding systems.
7) Commissioning: Certification of system complying with UL Master Label requirements.
8) Closeout: Maintenance and inspection procedures.
9) Closeout: Project record data; location of ground terminals, ground resistance and soil conditions at time of test.

3. Health Hazards:
   a. Design to prevent growth of fungus, mold, and bacteria on surfaces and in concealed spaces.
   b. Hazardous Construction Materials: Design and construct to comply with the requirements of the code and the following:
      1) All existing below grade non-friable asbestos and asbestos-containing or lead contaminated materials must be removed entirely from the proposed site using procedures specified by federal, state, and local regulations.
      2) No asbestos containing material.
      3) Paint proposed for use containing not more than 0.06 percent lead by weight of the non-volatile.
      4) Paint for interior use containing no mercurial mildewcide or insecticide.
      5) No Class I or Class II ozone depleting substance use for fire suppressants, refrigerants, and solvents.
      6) Substantiation:
         a) Design Development: Identification of methods to be used to comply with requirements; ventilation design calculations. Identification of unusual indoor contaminants or sources and methods to mitigate their effects on occupants.
         b) Construction Document: Certificates or manufacturer product specification showing material met the requirement. Specifications for abatement of asbestos and lead containing materials.
   c. Indoor Air Quality: Design and construct to comply with the code and the following:
      1) Acceptable air quality as defined by ANSI/ASHRAE 62-1999.
      2) Substantiation:
         a) Construction Documents: Specifications showing that construction materials are not contaminant sources and do not adversely affect air quality.
         b) Commissioning: Field measured outside and supply air quantities for each air handler.
         c) Occupancy: Field testing to show compliance, after full occupancy.

4. Electrically-Operated Equipment and Appliances: UL listed for application or purpose to which they are put; suitable for wet locations listing for exterior use.
5. **Radon Prevention and Mitigation: The designer shall use the Technical Instructions, TI 810-91 INDOOR RADON PREVENTION AND MITIGATION, dated August 1998, to determine the design criteria for radon prevention. The design guidance is available on the website www.hnd.usace.army.mil/techinfo/engpubs.htm. Per this criteria, as a minimum, radon levels of 0 to 4 pCi/1 shall require Design Letter Code A, Passive Barriers (see discussions and details in TI 810-91). Am#0005**

C. Durability:

1. Expected Service Life Span: Expected functional service life of the built portions of this project is 50 years.
   a. Service life spans of individual elements that differ from the overall project life span are defined in other Chapters.

2. Animals: Do not use materials that are attractive to or edible by animals or birds.

3. Insects: Do not use materials that are edible by insects, unless access by insects is prevented.

D. Operation and Maintenance:

1. Energy Efficiency: Minimize energy consumption while providing function, amenity, and comfort specified.
   a. Provide energy efficient design using design information from U.S.Army Corps of Engineers Technical Instructions Design Criteria, TI-800-01 20 July 1998.
      1) Provide at least 10 percent less energy consumption than that indicated in chapter 11, table 11 of TI-800-01 when performing energy budget analysis.
   b. Substantiation:
      1) Construction Documents: Detailed listing of design criteria and design analysis showing compliance, prepared by a licensed mechanical engineer.

2. Ease of Operation: Provide facility, equipment, and systems that are easily operated by personnel with a reasonable level of training for similar activities.
   a. Minimize the need for specialized training in operation of specific equipment or systems; identify all equipment and systems for which the manufacturer recommends or provides training programs.
   b. Train Government's personnel in operation of equipment and systems; see Chapter 00830 for additional requirements. See Section 01770 CONTRACT CLOSEOUT for additional requirements.

ELEMENTS AND PRODUCTS

A. In addition to requirements specified in other chapters, provide products and elements that comply with the following.

B. Elements Made Up of More Than One Product:

1. Where an element is specified by performance criteria, use construction either proven-in-use or proven-by-mock-up, unless otherwise indicated.
   a. Proven-In-Use: Proven to comply by having actually been built to the same or very similar design with the same materials as proposed and functioning as specified.
   b. Proven-by-Mock-Up: Compliance reasonably predictable by having been tested in full-scale mock-up using the same materials and design as proposed and functioning as specified. Testing need not have been accomplished specifically for this project; when published listings of independent agencies include details of testing and results, citation of test by listing number is sufficient (submittal of all test details is not required).
   c. The Contractor may choose whether to use elements proven-in-use or proven-by-mock-up, unless either option is indicated as specifically required.
   d. Where test methods accompany performance requirements, use those test methods to test the mock-up.
   e. Exception: Where a design analysis is specified, or allowed by the Government, substantiation of proven-in-use or proven-by-mock up construction is not required.

2. Where a type of product is specified, without performance criteria specifically applicable to the element, use the type of product specified.

3. Where more than one type of product is specified, without performance criteria specifically applicable to the element, use one of the types of products specified.

4. Where a type of product is specified, with applicable performance criteria, use either the type of product specified or another type of product that meets the performance criteria as proven-in-use or proven-by-mock-up.

5. Where more than one type of product is specified, with applicable performance criteria, use either one of the types of products specified or another type of product that meets the performance criteria as proven-in-use or proven-by-mock-up.

6. Where neither types of products nor performance criteria are specified, use products that will perform well within the specified life span of the building.

C. Products:

1. Where a product is specified only by a manufacturer name and model number/brand name, use only that model/brand product.

2. Where the properties of a product are specified by description and/or with performance criteria, use products that comply with the description and/or performance criteria.

3. Where manufacturers are listed for a particular product, use a product made by one of those manufacturers that also complies with other requirements.

4. Builders' Hardware:
   a. All hardware, including hinges, closers, locksets, exit devices, door hold open devices, and door stops, shall be grade 1 in accordance with the Builders Hardware Manufacturers Association ANSI/BHMA Standards.
   b. Lock Trim: Lock trim shall be cast, forged, or heavy wrought construction of commercial plain design. In addition to meeting the test requirement of BHMA A156.13, knobs, lever handles, roses, and escutcheons shall be 0.050 inch (1.27mm) thick, if unreinforced. If reinforced, the outer shell shall be 0.035 inch (0.89 mm) thick and the combined thickness shall be 0.070 inch (1.78 mm) except that knob shanks shall be 0.060 inch (1.52 mm) thick. Knob diameter shall be 2-1/8 to 2-1/4 inches (54 to 57 mm). Lever handles shall be of plain design with ends returned to no more than 1/2 inch (10 mm) from the door face.
   c. Lock Cylinders and Cores (Mortise, Rim and Bored)
      1) Lock cylinders shall comply with BHMA A156.5. Lock cylinder shall have not less than seven pins.
      2) Cylinders shall have key removable type cores.
         a) Disassembly of knob or lockset shall not be required to remove core from lockset.
         b) All locksets, lockable exit devices, and padlocks shall accept the same interchangeable cores.
      3) Provide a master keying system.
      4) Provide a construction master keying system .
         a) Use the manufacturer's standard construction key system.
      5) Keying: Locks shall be keyed in sets or subsets in accordance with the approved schedule. Change keys for locks shall be stamped with change number and the inscription "U.S. Property - Do Not Duplicate." The keys shall be furnished to the Contracting Officer arranged in a container in sets or subsets as scheduled.
      6) Keys shall be supplied as follows:
         a) Locks: 3 change keys each lock.
         b) Master keyed sets: 4 keys each set.
         c) Construction keys: 4 total.
   d. Special Requirements for Fort Polk, Louisiana
      1) Lock cylinders and cores: Cylinders and cores for locksets other than those for mechanical rooms shall be manufactured by Best Lock Corporation to extend the existing Post keying system. Locksets for mechanical rooms only shall be keyed to the existing Post utilities master keying system, consisting of locksets manufactured by Arrow Lock Co., Keyway K-7; furnish keys "0" bitted.
      2) Keying: Locks shall be furnished with the manufacturer's standard construction cores and key system. Permanent cylinders, cores, keys, and the lock set-up code shall be sent to the Contracting Officer by registered mail or other approved means.

5. Gypsum Board Products: Gypsum Board Products shall not contain asbestos.

SUBSTANTIATION

A. Definition: Substantiation is any form of evidence that is used to predict whether the design will comply with the requirements or to verify that the construction based on the design actually does

comply. Proposal substantiation requirements are specified in Division 1 Sections 00120 PROPOSAL SUBMISSION REQUIREMENTS and 00150 EVALUATION FACTORS FOR AWARD. During Design Development and Construction Documents, requirements to submit substantiation are primarily intended to forestall use of designs or constructions that will not comply. At any time before completion of construction, substantiation is presumed to be only a prediction and may subsequently be invalidated by actual results.

1. Regardless of whether substantiation is specified or not, the actual construction must comply with the specified requirements and may, at the Government's discretion, be examined, inspected, or tested to determine compliance.

2. Substantiation submittals will not be approved or accepted, except to the extent that they are part of documents required to be approved or accepted in order to proceed to the next stage of design or construction. However, approval or acceptance of substantiation will not constitute approval or acceptance of deviations from the specified requirements unless those deviations are specifically identified as such on the submittal. See Division 1 Sections 01015 DESIGN REQUIREMENTS AFTER AWARD and 01330 CONSTRUCTION SUBMITTAL PROCEDURES for definitions of "approved" and "accepted" submittals.

3. The Government accepts the responsibility to review substantiation submittals in a timely manner and to respond if they are unacceptable.

B. In addition to the requirements stated in other chapters, provide the following substantiation of compliance at each stage of the project:

1. See also Division 1 Sections 01015 DESIGN REQUIREMENTS AFTER AWARD and 01330 CONSTRUCTION SUBMITTAL PROCEDURES for submittal requirements.

C. Design Analyses (including Engineering Calculations):

1. Where a design analysis or calculation is specified without identifying a particular method, perform analysis in accordance with accepted engineering or scientific principles to show compliance with specified requirements, and submit report that includes analysis methods used and the name and qualifications of the designer.
2. Submit design analyses at the end of Design Development and Construction Document stages as required in Division 1 Section 01016 DESIGN DOCUMENT REQUIREMENTS .

D. Products:

1. Where actual brand name products are not identified by the Government, identify the products to be used.

2. In the Proposal:
   a. See Division 1 Section 00120 PROPOSAL SUBMISSION REQUIREMENTS for substantiation requirements.

3. During Design Development:
   a. Where more than one product type is identified for a particular system, assembly, or element, identify exactly which type will be used.
   b. For each product type, provide descriptive or performance specifications; early submittals may be brief specifications, but complete specifications are required prior to completion of construction documents.
   c. For each product type, identify at least one manufacturer that will be used.
   d. For major manufactured products that are commonly purchased by brand name, and any other products so indicated, provide manufacturer's product literature on at least one actual brand name product that meets the specifications, including performance data and sample warranty.

4. During Construction:
   a. Identify actual brand name products used for every product, except commodity products specified by performance or description.

b. Where a product is specified by performance requirements with test methods, and if so specified, provide test reports showing compliance.
c. Provide manufacturer's product literature for each brand name product.
d. Provide the manufacturer's certification that the product used on the project complies with the contract documents.
e. Builders' Hardware:
   1) **Hardware and Accessories**: Manufacturer's descriptive data, technical literature, catalog cuts, and installation instructions. Spare parts data for locksets, exit devices, closers, electric locks, electric strikes, electro-magnetic closer holder release devices, and electric exit devices, after approval of the detail drawings, and not later than 3 months prior to the date of beneficial occupancy. The data shall include a complete list of parts and supplies, with current unit prices and source of supply.
   2) **Hardware Schedule**: Hardware schedule listing all items to be furnished. The schedule shall include for each item: the quantities; manufacturer's name and catalog numbers; the ANSI number specified, sizes; detail information or catalog cuts; finishes; door and frame size and materials; location and hardware set identification cross-references to drawings; lock trim material thicknesses; lock trim material evaluation test results; corresponding reference standard type number or function number from manufacturer's catalog if not covered by ANSI or BHMA; and list of abbreviations and template numbers.
   3) **Electronic Access Systems**: Detail drawings for hardware devices for computerized keying systems, magnetic cards, keyless push button access control systems, and other electrical hardware devices showing complete wiring and schematic diagrams and other details required to demonstrate proper function of units.
   4) **Certificates of Compliance**: The hardware manufacturer's certificates of compliance stating that the supplied material or hardware item meets specified requirements. Each certificate shall be signed by an official authorized to certify in behalf of the product manufacturer and shall identify quantity and date or dates of shipment or delivery to which the certificates apply. A statement that the proposed hardware items appear in BHMA L & R Directory, BHMA Closer Directory and BHMA Exit Devices Directory directories of certified products may be submitted in lieu of certificates.
   5) **Buy American Act**: Furnish a separate certificate of compliance attesting that hardware items comform to the Section 00700 Contract Clauses pertaining to the Buy American Act.
f. Gypsum Board Products: Submit certification that gypsum board products, such as gypsum wallboard, gypsum backing board, cementitious backer units, and joint treating materials do not contain asbestos.

5. Before End of Closeout:
   a. Provide copies of all manufacturer warranties that extend for more than one year after completion.

END OF CHAPTER 111

CHAPTER C16

INTERIOR FINISHES

PERFORMANCE

A. Basic Function:

1. Provide appropriately finished interiors for all spaces required by the program.

2. Interior finishes comprise the following elements:
   a. Wall finishes, including those applied to the interior face of exterior walls and to the vertical faces of superstructure elements.
   b. Floor finishes.
   c. Suspended ceilings and soffits.
   d. Applied ceiling finishes.
   e. Finishes applied to other interior surfaces.

3. Where interior finishes are integral with elements defined within another element group, meet requirements of both element groups.

4. In addition to the requirements of this chapter, comply with all applicable requirements of Chapter 111 - Facility Performance, Chapter C - Interiors, and Chapter C1 - Interior Construction.

B. Amenity and Comfort:

1. Thermal Performance:
   a. Interior Wall Finishes at Exterior Walls: Provide vapor permeance of 1 perm (57 ng/Pa/s/sq m) maximum when tested in accordance with ASTM E 96-2000.

2. Reflectivity:
   a. Glare: Provide interior finishes that will not result in discomfort glare due to excessive contrast with light sources.
      1) Ceiling Surfaces: Not less than 50 percent reflectivity, when measured in accordance with ASTM E 1477-1998a.
      2) Wall Surfaces: Not less than 30 percent reflectivity.
      3) Floor Surfaces: Not less than 20 percent reflectivity.
   b. Specular Reflections: Provide interior finishes that will minimize specular reflections.

3. Acoustical Performance:
   a. Sound Absorption: Provide surfaces with minimum Noise Reduction Coefficient (NRC) in spaces as follows, measured and calculated in accordance with ASTM C 423-2000:

C. Health and Safety:

1. Slip Resistance: For spaces subject to floor wetting, including entry lobbies, provide floor finishes with inherent slip resistance under wet conditions.
   a. At building entries, provide means for reducing or minimizing moisture and debris on shoe soles.

2. Slip Resistance: At stairs and corridors, provide floor finishes with minimum static coefficient of friction of 0.60, measured in accordance with ASTM D 2047-1999.

D. Durability:

1. Wall Protection: In corridors, provide impact resistant corner guards or wall surfaces that are inherently resistant to impact damage due to rolling carts.

2. Flooring: Provide floor finishes that are appropriate for anticipated usage and traffic in each area, based on a 10 year replacement cycle.

PRODUCTS

A. Do not use:

1. Portland cement terrazzo.
2. Precast terrazzo.
3. Thinset epoxy terrazzo.
4. Thinset polyacrylate terrazzo.
5. **DELETED [AM#0005]**
6. Acoustical metal pan ceilings.
7. Athletic flooring.
8. Plastic laminate flooring.
9. Cushioned wood flooring.
10. Wood parquet flooring.
11. Wood strip flooring.
12. Fluid-applied flooring.
13. Sheet carpet, glued-down.
14. Sheet carpet, stretched-in.
15. Wallpaper.
16. Flexible wood veneer wall covering.

END OF CHAPTER C16

CHAPTER D52

SERVICE AND DISTRIBUTION

PERFORMANCE

A. Basic Function:

1. Distribute electric power for equipment circuits, lighting circuits, receptacle circuits, and electrical utilization devices.

2. Main Electrical Service: Provide the service transformer to convert the utility distribution voltage to the building's utilization voltage. The Owner will maintain the service transformer. See attached site plan for location of existing utility power lines. Exact connection point to utility line shall be coordinated with the Ft. Polk exterior electrical shop (tel no. 337-531-2303). Depending on contractor's design, some relocation or removal of aerial power lines may be required. Removal/relocation shall be coordinated with Ft. Polk exterior electrical shop. Exterior portion of service shall comply with NFPA 70, National Electrical Code and IEEE C2, National Electrical Safety Code, in addition to the requirements of this chapter.

3. Distribution Circuit Configuration: Underground radial circuit arrangement.

4. Panelboard Locations: Locate panelboards in dedicated electrical rooms/closets only except panelboards supplying power to computers and video teleconferencing equipment in ADLP classrooms shall be located within the classroom (one panelboard per room). Do not locate panelboards in public corridors, hallways, or stairwells.
   a. Panelboards serving computer, video teleconferencing equipment, and telecommunication loads shall have no other load types connected to said panelboard.

5. Where service and distribution elements must also function as elements defined within another elements group, meet requirements of both groups.

6. In addition to the requirements of this chapter, comply with all applicable requirements of Chapter 111 - Facility Performance, Chapter D - Services, and Chapter D5 - Electrical.

B. Amenity and Comfort:

1. Sound and Noise:
   a. Do not locate dry-type transformers near sound sensitive areas. See Chapter C for interior space sound level requirements.
   b. Provide transformers with noise generation 3 dBA less than the sound levels listed in IEEE Standard 241-1990 (R1997).

2. Appearance:
   a. Location of Service Transformer: Outside the building a minimum of 30 feet (9.15 m) from facility.
   b. Do not locate switchboards and transformers in corridors, hallways, lobbies, public spaces, or stairwells. Switchboards and transformers will be provided in dedicated electrical rooms/closets only.
   c. Conceal electrical conduit in walls and behind ceilings in the occupied spaces. Exposed conduit is only allowed in mechanical, electrical, and telecommunications rooms..

C. Health and Safety:

1. Protection from Breakage: Locate service and distribution equipment in electrical rooms.

2. Intrusion: Protect electrical distribution equipment from unauthorized access.

D. Structural:

1. Seismic Design: Provide service and distribution elements with the ability to move where

differential movement is anticipated.

E. Durability:

1. Impact Resistance: Provide service and distribution equipment with heavy gage metal housing.

2. Transformer Insulation Class: As follows:
   a. Service Transformers: Insulation Class 220 deg C.
   b. General-Purpose Dry-Type Transformers: Insulation Class 220 (except 185 for 10 kva or less) deg C.

F. Operation and Maintenance:

1. Capacity:
   a. Service Transformers: As required to serve demand load which includes 20 percent spare capacity..
      1) Kilovoltampere (kVA) Rating: Provide transformers with preferred ratings according to IEEE C57.12.00-2000.
      2) Primary Voltage: As required..
      3) Secondary Voltage: 480Y/277 V.
      4) Connection Method: Delta-Wye connection.
   b. Main Switchboards: As required to serve demand load which includes 20 percent spare capacity..
   c. Interior Distribution Transformers: As required to serve demand load which includes 20 percent spare capacity..
   d. Branch Circuit Panelboards: As required to serve demand load which includes 20 percent spare capacity..
   e. Substantiation:
      1) Design Development: Single-line diagram, showing feeder and equipment sizes; required electrical room sizes.
      2) Construction Documents: Riser diagram and calculations.
      3) Construction: Equipment characteristics.
      4) Closeout: For each panelboard, balance current on each phase conductor within 10 percent.
2. Ease of Use:
   a. Main busway. Provide main busway centrally located to minimize length of feeder and branch circuit runs.
   b. Labeling. All circuit breakers within a switchboard shall be labeled to identify load served. All panelboards shall be provided with a directory and each circuit listed in the directory shall be labeled to identify load served.

3. Dry-Type Transformer Applications:
   a. Distribution Transformers for Linear Loads: Use general purpose, energy-saving in accordance with NEMA Standard TP1.
   b. Distribution Transformers for Nonlinear Loads.Same requirements as for linear loads except include a neutral insertion filter to reduce harmonics..
      1) Neutral Insertion Filters. Neutral insertion filters shall be a series connected, bi-directional, passive device. Filter shall modify the input current waveform at single phase loads, provide an increase in load power factor, decrease branch and feeder neutral current and reduce rms phase currents compared to non-filtered circuitry. The filter shall modify the input current wave forms required by single-phase switch mode power supplies and other non-linear loads in order to reduce the 3rd harmonic currents demanded by such loads. The resultant reduction in 3rd harmonic current should create a significant decrease in current carried by the neutral conductor of a three-phase four-wire distribution system. Reduction in harmonics shall be bi-directional, occurring on both the line and load side of the device, and shall be

realized even when measured at the loads. Filter shall be totally passive in operation and shall contain no components that operate by switching or actively modifying the voltage or current waveform. Filters shall be rated 120/208 volts, 60Hz. Operating temperature shall be 0 to 40 degrees C. Information on these filters can be obtained from Harmonics Limited, 731 Main St., Monroe, CT 06468, (877) 437-3688.

c. Distribution Transformers for Linear and Nonlinear Loads: Same requirements as for nonlinear loads.

4. Ease of Maintenance and Repair:
   a. Select equipment which is segmented into modules to ease replacement of component failures.
   b. Wherever equipment is located in cabinets or enclosures, provide doors or removable panels sized to allow easy removal and replacement.

PRODUCTS

A. Transformers:

1. Use the following:
   a. Dry type (for all 120/208 V. loads) Transformers shall comply with NEMA ST 20, and UL 506 (if applicable).
   b. Liquid filled (exterior only) pad-mounted type (for 277/480 V. loads). Transformers shall comply with IEEE ANSI/IEEE C57.12.00, and ANSI C57.12.26.
   c. **Deleted. (Am#1)**

2. Do not use:
   a. Air type.
   b. Cast-coil.
   c. Oil type.
   d. **Deleted. (Am#5)**
   e. Gas type.
   f. Substation.
   g. Primary-unit substation.
   h. Secondary-unit substation.
   i. Network.
   j. Indoor distribution.

B. Secondary Service and Distribution Feeders:

1. Conduits:
   a. Use the following:
      1) Below Grade: PVC conduit (thick-walled).
      2) Exterior, Exposed: GRS conduit.
      3) Interior, Exposed: IMC conduit, GRS conduit, or EMT.
      4) Interior, Concealed: IMC conduit, GRS conduit, or EMT.
   b. Do not use:
      1) Below Grade: IMC conduit, GRS conduit, or EMT.
      2) Exterior, Exposed: IMC conduit, PVC conduit, or EMT.

2. Conductors :
   a. Use the following (this also applies to branch circuit conductors):
      1) **Deleted. (Am#5)**
      2) **Deleted. (Am#5)**
      3) Stranded for #8 AWG and larger.
      4) Solid for #10 AWG and smaller.
   b. Do not use:
      1) **Aluminum. (Am#5)**

C. Main Service Equipment: In accordance with UL 869A.

1. Types of Equipment:
   a. Use any of the following:
      1) Switchboards. Switchboards shall comply with NEMA PB 2, and UL 891.
      2) Distribution panels. Panels shall be dead-front construction and comply with NEMA PB 1 and UL 67.
   b. Do not use:
      1) Low voltage switchgear.
      2) Motor control centers.

2. Main Devices:
   a. Use one of the following:
      1) Molded case circuit breakers.
   b. Do not use:
      1) Power circuit breakers.
      2) Fused switches.
      3) Bolted pressure switch.

3. Branch Devices:
   a. Use the following:
      1) Circuit breakers.
   b. Do not use:
      1) Fused switches.

4. Busbars:
   a. Use the following:
      1) Copper.
   b. Do not use:
      1) Plated aluminum.

D. Branch Circuit Panelboards: Panelboards shall be dead-front construction and comply with NEMA PB 1 and UL 67.

1. Busbars:
   a. Use the following:
      1) Copper.
   b. Do not use:
      1) Plated aluminum.

2. Circuit Breakers:
   a. Use the following:
      1) Molded case circuit breakers.
   b. Do not use:
      1) Fused switches.

E. Motor Control Centers: MCC's shall conform to the requirements of NEMA ICS 1, NEMA ICS 2, NEMA ICS 3, NEMA ICS 6, UL 508, and UL 845.

1. Busbars:
   a. Use the following:
      1) Copper.
   b. Do not use:
      1) Plated aluminum.

2. Overcurrent Protectors:
   a. Use one of the following:
      1) Circuit breakers.

2) Fused switches.
3) Motor circuit protector (MCP).

END OF CHAPTER D52

CHAPTER D7

TELECOMMUNICATIONS

PERFORMANCE

A. Basic Function:

1. Provide the following telecommunication services:
   a. Voice and Data (D71): Infrastructure for voice and data transmission.
   b. Sound Reinforcement (D72): Public address system in library.
   c. Television (D73): Television (CATV & Satellite) cabinet, cabling, and outlets.
2. Where telecommunications elements also must function as elements defined within another element group, meet the requirements of both element groups.
3. In addition to the requirements of this chapter, comply with all applicable requirements of Chapter 111 - Facility Performance, Chapter D - Services, and Chapter G3 - Site Services.

B. Health and Safety:

1. Electrical Hazards: Design in accordance with all NFPA standards that apply to the occupancy, application, and design.
   a. Control access to spaces housing telecommunication components by providing a lockable door into room.
2. Emergency Systems: Provide a UPS for when normal power is interrupted, for the following:
   a. Systems and areas as required by code.
   b. All quadraplex receptacles in telecommunication room(s).

C. Durability:

1. Enclosures: As required to protect equipment from environment in which it is installed, complying with NEMA 250-1997.
   a. Interior, Other Locations: Type 1.

D. Operation and Maintenance:

1. Capacity: Design systems to deliver required performance while operating within their intended ratings.
2. Power Consumption and Efficiency:
   a. Comply with requirements for energy efficiency of electrical equipment in ASHRAE 90.1-1999.

PRODUCTS

A. Provide the following:
1. Telecommunication Room(s). Room(s) shall be located centrally in the area(s) it serves. Room(s) shall be located such that maximum horizontal copper cable distance from the patch panel through the structured cabling system to the furthest outlet does not exceed 300 feet (90 m). A minimum of one room shall be provided per floor.
   a. Plywood Backboards. Backboards shall be 3/4" (21 mm) thick, 8 feet (2440 mm) tall and shall completely cover as a minimum the width of two walls within each telecommunication room. Backboards shall be finished with a fire resistant coating and rigidly attached to the wall to support all attached equipment.
   b. Equipment Racks. If a single telecommunication room is provided (allowed only in a single story facility) then sufficient racks shall be installed to accomodate all contractor provided rack mounted equipment, and an additional 3 spare racks shall be installed for equipment to be provided by others. In addition, sufficient space shall be provided to accommodate a

55 inch wide by 43.5 inch deep cabinet for the ADLP classroom servers to be provided and installed by others. If more than one telecommunication room is provided then each room shall be provided with sufficient racks to accomodate all contractor provided rack mounted equipment. In addition, the primary telecommunications room shall be provided with 2 additional spare racks and the secondary rooms shall be provided with one additional spare rack. The room closest to the ADLP classrooms shall also be sized to accommodate the 55 inch by 43.5 inch cabinet mentioned above. Racks shall be floor mounted open frame type, shall be centered in the room as much as possible and shall have a minimum working space of 3 feet (915 mm) on all four sides. Minimum working space also applies to ADLP server cabinet. Adjacent racks may share working space. Racks shall be 19 inches (480 mm) wide and 7 feet (2.1 m) tall. Racks shall be welded steel relay racks with uprights to mount equipment. Uprights shall be 3 inches (75 mm) deep channel, 1-1/4 inches (32 mm) wide, drilled and tapped 12-24 in a 1/2 inch (13 mm) pattern. Racks shall be provided with a standard top crossmember, and predrilled base plate to allow floor fastening. Racks shall be clear coated. A floor surface mounted quadraplex receptacle shall be provided adjacent to the dedicated space allocated for the government installed ADLP server cabinet. Receptacle shall be on a dedicated circuit.

1) Cable Guides. Cable guides shall be specifically manufactured for the purpose of routing cables, wires and patch cords horizontally and vertically on equipment racks. Cable guides shall consist of ring or bracket-like devices mounted on rack panels for horizontal use or individually mounted for vertical use. Cable guides shall mount to racks by screws and/or nuts and lockwashers.

c. Cable Rack. A channel type cable rack shall be provided to provide distribution between the backboards, equipment racks, riser conduits, and the distribution cable tray.

d. Climate Control. Each room shall be independently climate controlled capable of providing cooling year round (24 hours/day, 365 days/year) to protect all installed electronic equipment. Room(s) shall be provided with positive atmospheric pressure to exclude dust.

e. Single Jack Outlet. Each room shall be provided a wall outlet for voice mounted near the door at a height of 4 feet (1220 mm).

f. Grounding. A # 6 AWG bare copper conductor shall be used as a grounding conductor. All grounding conductors listed below shall be connected to the facility's primary grounding electrode system in accordance with EIA/TIA 607. When penetrating walls or floors grounding conductor shall be placed in a 3/4 inch (21mm) conduit.

1) Plywood Backboard. 10 feet (3000 mm) of the grounding conductor shall be coiled up on plywood backboard.
2) Equipment Racks. All equipment racks shall be grounded.
3) CATV and Satellite cabinets. 3 feet of grounding conductor shall be coiled up inside cabinets.

g. Fiber Optic Patch Panels. Panel(s) shall be modular with ST connectors. Panel quantity as required per design. Panels shall be a complete system of components by a single manufacturer, and shall provide termination, splice storage, routing, radius limiting, cable fastening, storage, and cross-connection. Patch panels shall be 19 inch (480 mm) rack mounted panels. Patch panels shall provide strain relief for cables. Panels shall be labeled with alphanumeric x-y coordinates. Patch panel connectors and couplers shall be the same type and configuration as used elsewhere in the system.

h. Copper Patch Panels. Panels shall be Category 5e modular with RJ-45 connectors as required to terminate all twisted pair copper cables within the facility. Panels shall consist of eight-position modular jacks, with rear mounted type 110 insulation displacement connectors, arranged in rows or columns on 19 inch (480 mm) rack mounted panels. Jack pin/pair configuration shall be T568B per ANSI/TIA/EIA-568-A. Jacks shall be unkeyed . Panels shall be labeled with alphanumeric x-y coordinates. The modular jacks shall conform to the requirements of ANSI/TIA/EIA-568-A, and shall be rated for use with Category 5e cable in accordance with ANSI/TIA/EIA-568-A-5 and shall meet the Link Test parameters as listed in TIA/EIA TSB 67 and supplemented by ANSI/TIA/EIA-568-A-5.

i. Patch Cords.
   1) RJ-45, CAT 5e, 5 foot patch cords as required to patch out all RJ-45 connections between hubs (supplied and installed by others) and distribution equipment. Patch cords shall be cable assemblies consisting of flexible, twisted pair stranded wire with eight-position plugs at each end. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Patch cords shall be wired straight through; pin numbers shall be identical at each end and shall be paired to match T568B patch panel jack wiring per ANSI/TIA/EIA-568-A. Patch cords shall be unkeyed. Patch cords shall be factory assembled. Patch cords shall conform to the requirements of ANSI/TIA/EIA-568-A-5 for Category 5e. Cords are contractor provided, user installed.
   2) ST, duplex, single mode, 5 foot patch cords as required to patch out all ST connections between hubs (supplied and installed by others) and distribution equipment. Patch cords shall be cable assemblies consisting of flexible optical fiber cable with connectors of the same type as used elsewhere in the system. Optical fiber shall be the same type as used elsewhere in the system. Patch cords shall be complete assemblies from manufacturer's standard product lines. Cords are contractor provided, user installed.

j. Terminal Blocks. Provide as required to accomodate 300PR copper cable. Terminal blocks shall be wall mounted wire termination units consisting of insulation displacement connectors mounted in plastic blocks, frames or housings. Blocks shall be type 110 which meet the requirements of ANSI/TIA/EIA-568-A, and shall be rated for use with Category 5e cable in accordance with ANSI/TIA/EIA-568-A-5 and shall meet the Link Test parameters as listed in TIA/EIA TSB 67 and supplemented by ANSI/TIA/EIA-568-A-5. Blocks shall be mounted on standoffs and shall include cable management hardware. Insulation displacement connectors shall terminate 22 or 24 gauge solid copper wire as a minimum, and shall be connected in pairs so that horizontal cable and connected jumper wires are on separate connected terminals. Blocks shall be mounted on plywood backboard.

k. Fiber Optic (FO) Backbone Cable: 12 strand FO cable as required per design. Singlemode fiber optic backbone cable shall meet the requirements of ICEA S-83-596 and the following: operation at a center wavelength of 1310 and 1550 nm; core/cladding diameter 8.3 nominal/125 micrometer; maximum attenuation 2.0 dB/km at 1300 nm and 1.75 dB/km at 1550 nm. Numerical aperture for each fiber shall be a minimum of 0.10. Cable construction shall be tight buffered type. Cable shall be imprinted with fiber count and aggregate length at regular intervals. Individual fibers shall be color coded for identification. Cable shall be rated OFNP per NFPA 70.

l. Copper Backbone Cable: Backbone cable shall be used for voice only and shall meet the requirements of ICEA S-80-576 and ANSI/TIA/EIA-568-A for **Category 5** **(AM#4)** 100-ohm unshielded twisted pair cable. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Conductors shall be solid untinned copper 24 AWG. Cable shall be rated CMP per NFPA 70.

m. Protector Modules. Contractor shall provide three (3) 100PR protector modules. Modules shall be of the two-element gas tube type. Modules shall be heavy duty, A>10 kA, B>400, C>65A where A is the maximum single impulse discharge current, B is the impulse life and C is the AC discharge current per ANSI C62.61. The gas modules shall shunt high voltage to ground, fail short, be equipped with an external spark gap and heat coils, and shall comply with UL 497. Modules shall be mounted on plywood backboard in primary telecommunication room.
   1) Copper Cable. Incoming 300PR cable shall be terminated on protector modules.
   2) Fiber Optic Cables. Incoming 12 strand cable shall be terminated on a patch panel.

n. Metering Conduit. A 1 inch (27mm) conduit with pull wire between DDC cabinet (cabinet with conduit connection to electrical meter) in mechanical room and plywood backboard in telecommunication room.

o. CATV Cabinet. Wall mounted of sufficient size to accomodate all home run coax cables from TV outlets and future headend equipment provided and installed by others. Outside coax cable to terminate in this cabinet. Provide wall mounted quadraplex receptacle next to cabinet.

p. Satellite Cabinet. Wall mounted of sufficient size to accomodate all home run coax cables from sattelite outlets. Outside coax cable to terminte in this cabinet. Provide wall mounted quadraplex receptacle next to cabinet.

q. PA System Equipment. Provide necessary power and interfacing components in telecommuncation room closest to library.

2. **(AM#5) Classrooms (ADLP, Satellite, and VTC classrooms are excluded). Classrooms shall be provided with a rough-in to accomodate a future state of the art multi-media instructor's platform. Platform will be interfaced to a networked computer, ceiling mounted projector, ceiling mounted speakers, and will be able to accomodate 3.5 inch floppy disks, compact disks, compact video disks, video cassettes, audio cassettes, 35 mm slides, and a "Smart Board". As a minimum rough-in shall include underfloor conduit with pull wire for all future data cabling (accessible from floor and wall), underfloor conduit with pull wire for speaker wiring (accessible from floor and ceiling), and a dedicated recessed floor mounted duplex receptacle for power.**

END OF CHAPTER D7

CHAPTER D73

TELEVISION

PERFORMANCE

A. Basic Function:
   1. Provide the following:
      a. Interior cable between:
         1) CATV/Satellite outlets throughout the facility and cabinets in telecommunication room(s). Cables shall be installed in raceways consiting of conduit and cable trays. Provide a minimum of 3 feet (900 mm) slack in cabinet.
         2) Cabinets if installed in more than one telecommunication room.
         3) Exterior wall and cabinet in telecommunication room for future connection to government provided and installed satellite dishes. Exterior connection points shall be coordinated with Ft. Polk.
      b. CATV/Satellite Outlets: Required in the following spaces:
         1) **(AM#5)** **Three** dual jack flush mounted on exterior wall for satellite connection. Locations to be provided by Ft. Polk.
         2) See attached room requirements sheets.
      c. Lockable wall mounted cabinets as required in telecommunication room(s).

   2. Furnished and installed by Government after contract completion:
      a. Television sets.
      b. Television headend equipment.
      c. Video projectors.
      d. Video recorders.
      e. Two satellite dishes.

   3. In addition to the requirements of this chapter, comply with all applicable requirements of Chapter 111 - Facility Performance, Chapter D - Services, and Chapter D7 - Telecommunications.

   4. Substantiation:
      a. Design Development: Details of each type of system component; manufacturer data.
      b. Construction Documents: Detailed layout of all component locations.
      c. Closeout: Complete functional performance testing as specified in Chapter 00830, under Commissioning.

B. Amenity and Comfort:

   1. Accessibility: Comply with requirements of federal authorities for facilities for the disabled.

C. Durability:

   1. Moisture Resistance and Thermal Compatibility: Materials that will resist degradation and failure of signals under ambient conditions expected.

D. Operation and Maintenance:
   1. System Labeling. All cabling shall be labeled in accordance with TIA/EIA 606. Labling shall allow easy identification of which cable in the telecommunication room is connected to which outlet.

   2. Power Supplies: As specified in Chapter D51.

   3. Transmission Capacity:
      a. Sound Communication Cabling: 10 megabits per second; RJ45 connectors.
      b. Video/Audio Cabling: Coaxial 75 ohm, plus 2 dB, 100 percent shielded with type F connectors.

c. Substantiation:
1) Closeout: Continuity and performance testing.

PRODUCTS

A. Control Systems for All Applications:
B. Cabling:

1. Use the following:
a. 75-ohm broadband coaxial cable.
1) RG-59 for lengths less than or equal to 150 feet.
2) RG-6 for lengths less than or equal to 250 feet.
3) RG-11 for lengths less than or equal to 400 feet.

C. Connecting hardware:
1. Use the following:
a. Connectors. Connectors shall be type F.
b. Jacks. Jacks shall be compatible with type F connectors.
c. Outlet boxes. Electrical boxes for CATV/Satellite outlets shall be 4-11/16 inch (117 mm) square by 2-1/8 inches (53 mm) deep with minimum 3/8 inch (9 mm) deep single or two gang plaster ring as required. Provide a minimum 1 inch (27 mm) conduit between outlet box and cable tray.

CHAPTER G28 – GENERAL CIVIL DESIGN AND SITE REQUIREMENTS

PART 1- GENERAL

1.1 REFERENCES

The design of this facility shall comply with the requirements of the applicable parts of the following references:

CESWD Architectural and Engineering Instruction Manual (CESWD-AEIM)

Uniform Federal Accessibility Standards, Federal Register (UFAS)

Americans with Disabilities Act Guidelines (ADA)

TM 5-803-5, Installation Design

TM 5-803-14, Site Planning and Design

TM 5-813-5, Water Supply, Water Distribution Systems

TM 5-814-1, Sanitary and Industrial Wastewater Collection- Gravity Sewers and Appurtenances

TM 5-814-2, Sanitary and Industrial Wastewater Collection- Pumping Stations and Force Mains

TM 5-820-4, Drainage for Areas Other Than Airfields

TM 5-822-2, General Provisions and Geometric Design for Roads, Streets, Walks, and Open Storage Areas

TM 5-822-5, Pavement Design for Roads, Streets, Walks, and Open Storage Areas

TM 5-822-7, Standard Practice for Concrete Pavements

TM 5-848-1, Gas Distribution

DG 1110-3-204, Design Guide for Army and Air Force Airfields, Pavements, Railroads, Storm Drainage, and Earthwork

MIL-HDBK-1008A, Fire Protection for Facilities

MIL-HDBK-1190, Facility Planning and Design Guide

HQUSACE Architectural and Engineering Instructions- Design Criteria (USACE AEI)

1.2 PROJECT LOCATION

This project is to be constructed on the Fort Polk Army Base, on a site bound on the north by Louisiana Avenue, and on the west and east by Utah and Colorado Avenues, respectively. The new facility will be located on the site bound to the immediate north by Wyoming Avenue and to the far north by Louisiana Avenue. The southern boundary is Montana Avenue. Utah and Colorado Avenues encompass the western and eastern boundaries, respectively.

1.3 GENERAL INFORMATION

1.3.1 Contractor Storage Area

A Contractor storage area will be available at the southern end of the site. The Contractor will be responsible for providing security fencing for the project site and the storage area.

1.3.2 Contractor Haul Route

The primary haul route will be from Highway 467, going east on Louisiana Avenue and south on Colorado Avenue. The secondary route will be north on Highway 467, east on BellRichard Avenue and north on Colorado.

1.3.3 Borrow and Disposal Areas

No borrow or waste disposal areas are available on Fort Polk Army Base. Borrow and waste disposal areas shall be located off of Government-controlled property and shall be the responsibility and expense of the Contractor.

1.3.4 Utilities

Water, electricity and telephone will be available to the Contractor for use during construction.

1.3.5 Geotechnical Information

Geotechnical investigation shall be the responsibility of the designer. See Attachment I, of this contract document, for the soils report and foundation design requirements.

1.3.6 Specifications

Construction Specification Institute (CSI) or Army Corps of Engineers guide specifications may be used by the designer.

PART 2- SITE DEMOLITION

2.1 The proposed site used to house rows of World War II hospital buildings, which have been demolished and the existing utilities were abandoned in place, except for the steam lines. Any existing utilities and associated structures, not incorporated into the design of the new facility, shall be demolished to the extent they fall within the boundaries of new construction and removed from the site.

2.2 The Contractor shall field verify exact locations of underground utilities prior to commencement of any excavation or trenching operations. Existing utility mains or service lines that cross under the proposed building footprint shall be rerouted around the new facility.

2.3 Existing trees are located along the southern, eastern and western boundaries of the site. They consist primarily of pine trees and should be removed, as needed, to develop the site. The Installation will remove any materials desired for salvage.

2.4 Waste materials and construction debris shall be disposed of off Government property at the responsibility and expense of the Contractor. The use of burning at the project site for the disposal of refuse and debris will not be permitted. The use of explosives will not be permitted.

PART 3- SITE DESIGN

3.1 The new facility will be located on the site bound to the immediate north by Wyoming Avenue and to the far north by Louisiana Avenue. The southern boundary is Montana Avenue. Utah and

Colorado Avenues encompass the western and eastern boundaries, respectively. Colorado Avenue will be the main thoroughfare in this area, which should be considered when orienting the new building and support facilities. An existing playground, park and pond (Catfish Cove) are located to the north, between Wyoming and Louisiana Avenues. These features should also be considered and incorporated, as feasible, when developing the orientation of the site. A Family Readiness Center (FRC) is proposed for future construction immediately south and adjacent to the proposed site. Support parking should be developed to allow for shared use and future expansion, as needed, to support the FRC. Creativity is encouraged in developing a site orientation and layout, which ties the existing and future facilities into this project. The object for this, and future projects in this area, is to develop a town center concept.

3.2 **Provide a new POV parking area that can accommodate approximately 569 to 612 parking spaces, including motorcycle and handicapped accessible spaces. [Am #0005]** The preference for the new parking area is to provide one-way, angled access aisles, if space permits. Curb and gutter will be utilized for drainage control. Painted end islands and directional arrows will be used for traffic control. If raised end islands are provided, the interior shall be concrete paved in lieu of landscaping or turf because of maintenance concerns. Access road and POV parking radii will be designed to accommodate the Installation requirements for fire engines. Access to at least 3 sides of the building will be included for fire protection measures. A fire lane will be provided next to the building, if feasible. Motorcycle and bike spaces will also be included. Security lighting will be provided in the POV parking areas.

3.3 Wyoming Avenue runs east to west across the site and will be repaved and widened, as needed, to provide access to the site off Colorado and Utah Avenues. Walks shall be designed to connect the new parking areas to the building and to the playground. Handicapped access will be provided and shall comply with applicable ADA and UFAS requirements.

3.4 Provide a covered designated smoking area at least 15.240 meters (50 feet) from the building, with covered access. Ramps for off loading books and supplies are also desired in the service area. The G3 Military Schools Program will also require an open, turfed area adjacent to the site for MBC training. It is proposed that the area east of the playground and northeast of the site, be developed for this function.

3.5 Existing trees are located along the southern, eastern and western boundaries of the site. They consist primarily of pine trees and should be removed, as needed, to develop the site. The Installation will remove any materials desired for salvage. Landscaping should incorporate hardwoods that are compatible and readily available to the area. Landscaping should be provided that is low maintenance, yet adds to the aesthetic features of the project. An irrigation system shall also be provided. Landscaping should also be designed to consider sustainability benefits. Any raised islands to be used for landscaping purposes should be of considerable size, 3.050M X 3.660M (10’ X 12’) and larger, to aid in maintenance.

3.6 Force protection requirements will be incorporated into this project. A low threat level assessment is assumed. The building will be situated a minimum of 15.240 meters (50 feet) from perimeter roads and 9.140 meters (30 feet) from parking areas. Dumpsters and mechanical equipment will also be located a minimum of 9.140 meters (30 feet) from the building. Dumpster pads shall be sized to accommodate both traditional and recyclable waste bins and shall be screened with a 1.830 meter (6 feet) high wall. The wall shall be constructed of materials that match the proposed materials for the building. Sustainability requirements shall be considered and incorporated, as feasible. The building should be oriented, as feasible, to utilize solar orientation for energy efficiency.

PART 4- EARTHWORK/GRADING

4.1 Site topography easily accommodates the proposed facility. The existing grade is relatively flat across the project site. The objective of the grading scheme should be to minimize and balance earthwork to the greatest extent possible. The project site is approximately 11 acres. A Stormwater Pollution Prevention Plan is required. Silt fences, hay bale barriers and other stormwater controls shall be required to prevent the movement of silt and other construction debris from the construction site.

4.2 No underground storm drainage system is available on the Installation; therefore, site drainage shall be accomplished by the use of sheet flow and ditch and culvert design. If an underground system is designed to drain the site, storm drainage pipes shall be a minimum of 450 millimeters (18").

4.3 All earthwork shall be unclassified excavation. Borrow and disposal areas shall be located off of Government-controlled property at the responsibility of the Contractor.

4.4 The finish floor elevation of the building shall be 300 millimeters (1 foot) above the outside finished grade. The outside finished grade will slope away from the building at a 5% slope for the first 3 meters (10 feet). Lawn areas shall have a minimum slope of 2% and a maximum slope of 25%. The preferred minimum longitudinal ditch gradient is 0.5%.

4.4 Finished grade contours at 0.25 meter intervals and spot elevations shall be provided. Sufficient spot elevations shall be provided such that interpolation between the contours is not required; some examples are: corners of paved areas, low and high points, flow lines of swales and ditches, changes in slope and grading at building corners to ensure positive drainage away from the building. The use of cut and fill symbols in lieu of finish grade contours is not permitted.

4.5 All earthwork shall be accomplished with (and tested for) density control typical for the proposed use of the area (i.e. below building slabs, below turfed areas, backfill of utility trenches).

PART 5- PAVEMENT

5.1 Walks

Pavement shall consists of 100mm (4”) reinforced concrete on top of the raw subgrade. Raw subgrade shall be compacted below all sidewalks. Minimum walk width shall be 1.220 meters (4 feet). All sidewalk intersections shall be provided with a 1 meter (3 feet) triangular chamfer. Sidewalks shall be reinforced with 150mm X 150mm- W3 X W3 welded wire mesh. Sidewalks leading up to the new facility will meet ADA and UFAS requirements.

5.2 Access Drives

5.2.1 Geometric design shall conform to the applicable portions of TM 5-803-5, TM 5-803-14, TM 5-822-2 and CESWD-AEIM.

5.2.2 Flexible pavement design and construction details shall be in accordance with TM 5-822-5 and CESWD-AEIM.

5.2.3 Rigid pavement design and construction details shall be in accordance with TM 5-822-5, TM 5-822-7, DG 1110-3-204 and CESWD-AEIM. A joint pattern with sufficient vertical control information capable of providing accurate elevations for setting of paving forms shall be provided for all rigid pavements.

PART 6- UTILITIES

6.1 General

6.1.1 All utilities necessary to service the new facility are readily available within or along the perimeter of the project site. Excavation of trenches, installation of lines and backfilling for utilities shall be in accordance with earthwork and grading requirements and conform to standard military construction practices.

6.1.2 The bedding surface of the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe.

6.1.3 Water and gas service lines shall be metered. Meters shall be equipped with pulse initiators.

6.1.4 All underground metallic utility lines, building stubouts, fire hydrants and valves shall be provided with a bonded coating and cathodic protection. When non-metallic piping is installed underground and connected to metallic piping, a #8HMWPF wire shall be thermit-welded to the metallic pipe and run the length of the non-metallic piping to provide continuity of the cathodic protection system and to permit locating the pipe with a magnetic detector. The wire shall be continuous and accessible aboveground at all valves and building risers.

6.1.5 Flow data for gas and water utilities in the area can be obtained from the Installation's DPW office and Fire Department. Electronic copies of the base utility maps for the project area will be furnished with the advertisement package.

6.1.6 The Contractor shall provide a minimum of 1 week notice to the Installation's DPW office of any planned utility outages.

6.1.7 All gravity flow lines of more than one manhole shall be profiled. Sections shall be provided for all culverts.

6.2 Water Service

6.2.1 Piping for water service lines less than 75 millimeters (3") in diameter shall be galvanized steel, polyvinyl chloride (PVC) plastic or copper tubing. All water line services shall be valved and metered outside the building.

6.2.2 Piping for water distribution lines 75 millimeters (3") or larger shall be ductile iron or Polyvinyl Chloride (PVC) plastic and provided with appropriate thrust restraint.

6.2.2.1 When installed underground, ductile iron pipe, joints, fittings and specials shall be protected with a factory applied 500 micrometer (20 mil) thick coal-tar epoxy coating. Piping shall be checked with a holiday tester prior to burial. Any flaws in the protective coating shall be repaired in accordance with the manufacturer's recommendations. Any pipe with flaws exceeding 1300 square millimeters (2 square inches) shall be replaced with new pipe or repaired at the factory.

6.2.3 At least two hydrants will be provided for the facility. Fire hydrants shall have a 150mm (6") bell connection, two 65mm (2 ½") hose connections and one 115mm (4 ½") pumper connection. All hydrants shall be installed with a 150mm (6") gate valve for isolation.

6.2.4 Design shall be in accordance with TM 5-813-5.

6.2.5 Profiles for water lines will be provided when crossings of other new or existing underground utilities will occur.

6.3 Sanitary Sewer

6.3.1 Piping for sanitary sewer line shall be cast iron soil pipe, ductile iron pipe, extra strength clay pipe or plastic (ABS, PVC, RPMP, RTRP or HDPE) pipe. Fittings shall be compatible with the pipe supplied and shall have a strength not less than that of the pipe. Building service lines shall be a minimum of 150 millimeters (6 inches) in diameter.

6.3.2 Branch connections shall be made by the use of regular fittings or saddles, as approved. Sanitary sewer manholes shall be reinforced cast-in-place or precast concrete. Frames and covers shall be cast iron or ductile iron.

6.3.3 Where the location of the sewer is not clearly defined by dimensions on the drawings, the sewer will not be closer than 3 meters to a water-supply main or service line, except that where the bottom of the water pipe will be at least 300mm above the top of the sewer pipe, the horizontal spacing may be a minimum of 2 meters. Where gravity flow sewers cross above water lines, the sewer pipe, for a distance of 3 meters on each side of the crossing, shall be fully encased in concrete or shall be acceptable pressure pipe with no joint closer than 1 meter horizontally to the crossing. The thickness of the concrete encasement including that at the pipe joints shall not be less than 100 millimeters (4").

6.3.4 Design shall be in accordance with TM 5-814-1 and TM 5-814-2.

6.4 Storm Drains

6.4.1 Storm drainage improvements shall be designed in accordance with industry standards, Installation requirements and criteria presented in CESWD-AEIM and TM 5-820-4.

6.4.2 Pipe for storm drains for sizes 300mm (12") and larger shall be include reinforced concrete pipe; fully coated, fully paved or lined, corrugated steel pipe, fully coated and lined corrugated aluminum alloy pipe, ductile iron culvert pipe, PVC pipe (ribbed, corrugated and smooth wall), and corrugated PE pipe. For pipe sizes less than 300mm (i.e. roof drains) pipe materials shall include non-reinforced concrete pipe, clay pipe, PVC and PE pipe. Manholes shall be reinforced cast-in-place or precast concrete.

6.5 Natural Gas

6.5.1 Piping for all new natural gas lines shall include steel pipe, polyethylene pipe and fiberglass pipe. Valves shall be steel or polyethylene.

6.5.2 Design shall be in accordance with TM 5-848-1.

PART 7 – TURFING AND LANDSCAPING

7.1 All unpaved, graded and disturbed areas resulting from the Contractor's operations shall receive turfing. Turfing shall consist of fertilizing, tilling and seeding of Common Bermudagrass. Maintenance of all turfed areas will include watering, mowing, refertilizing and maintaining, to secure a satisfactory turf.

7.2 Landscaping should incorporate hardwoods that are compatible and readily available to the area. Landscaping should be provided that is low maintenance, yet adds to the aesthetic features of the project. An irrigation system shall also be provided. Landscaping should also be designed to consider sustainability benefits. Any raised islands to be used for landscaping purposes should be of considerable size (10' X 12' and larger) to aid in maintenance.

PART 8 – GENERAL CIVIL DRAWINGS REQUIREMENTS:

8.1 Master site drawings with up-to-date modifications/additions

8.1.1 Detailed Site Survey (Topographic and Utilities).

8.1.2 Contractor's Office, Parking and Staging area.

8.1.3 Limits of construction and limits of grading.

8.1.4 Temporary fencing.

8.2 Site Layout (complete plans with dimensional control)

8.2.1 Building stoops, steps, sidewalks, etc.

8.2.2 Underground structures such as manholes, meter pits, etc.

8.2.3 Trash Dumpster pads (Traditional and Recycible waste)

8.2.4 Screenwalls, fences, etc.

8.2.5 Setbacks, easements, etc.

8.3 Grading and Drainage Plan

8.3.1 New and existing contour lines with spot elevations, as necessary.

8.3.2 Complete storm drainage system plan and profiles.

8.3.3 Building finish floor elevation.

8.3.4 Limits of construction and limits of grading.

8.3.5 Identify and provide protection for existing trees to remain.

8.3.6 Berms, swales, etc.

8.3.7 Temporary and permanent erosion control measures.

8.4 Site Utility Plan

8.4.1 Sanitary Sewer

8.4.1.1 Sanitary sewer lines and manholes.

8.4.1.2 Complete gravity line profiles.

8.4.2 Water

8.4.2.1 Fire hydrants, lines and PIVs.

8.4.2.2 Meters and valves.

8.4.3 Other Utilities

8.4.3.1 Hot and chilled water supply and return.

8.4.3.2 Natural gas lines, valves and meters.

8.5 Site Details

8.5.1 Paving, curbs and gutters, jointing, etc.

8.5.2 Manholes, inlets, etc.

8.5.3 Screenwalls, fences, dumpster pads, etc.

8.5.4 Paving surfaces, joint patterns, etc.

8.5.5 Miscellaneous site and utility details.

END OF CHAPTER G28

CHAPTER G34

ELECTRICAL POWER

PERFORMANCE

A. Basic Function:

1. Provide electrical power supply and distribution elements.
2. Where site electrical power elements must also function as elements defined within another element group, meet requirements of both element groups.
3. In addition to the requirements of this chapter, comply with all applicable requirements of IEEE C2, National Electrical Safety Code, and Chapter 111 - Facility Performance.

B. Amenity and Comfort:

1. Appearance:
   a. Provide underground electrical power distribution with pad mounted transformers.
   b. Utility Pole Height for Electrical Distribution: Match existing aerial line poles adjacent to new transition pole. Disregard if utility source is underground.

C. Health and Safety:

1. Fire Source: Provide site electrical elements which are rated for duty and service.

D. Durability:

1. Life Span: Provide a system which will last a minimum of 20 years in service without major repairs or operating expense.
2. Utility Pole Life Span: Provide poles which will last a minimum of 50 years in service.
3. Corrosion: Provide buried conduits which are resistant to corrosion.
4. Utility Pole Corrosion: Provide utility poles which are resistant to insects, water, and acidic soils.

E. Operation and Maintenance:

1. Capacity: As indicated by load calculations for secondary service.
2. Transformer Ratings:
   a. Primary Voltage/Phase/Frequency: 13800 volt/3 phase/60 Hz.
   b. Secondary Voltage/Phase/Frequency: 480 volt/3 phase/60 Hz.
   c. Maximum Temperature Rise: 65 degree C.
   d. Number of Wires: 3 wire primary 4 wire secondary.
   e. Capacity: As indicated by load calculations.
   f. Efficiency: Must comply with NEMA standard TP1.
3. Conduit size: Buried conduit shall be 1 inch (27 mm) minimum.

PRODUCTS

A. Transformers:

1. Use the following:
   a. Liquid-filled transformers. See chapter D52.
2. Do not use:
   a. Autotransformers.
   b. Dry-type transformers.
   c. Oil-insulated transformers.
   d. Pole mounted transformers.

e. **Deleted. (Am#5)**

B. Utility Poles:

1. Use the following:
   a. Wood poles.
2. Do not use:
   a. Aluminum poles.
   b. Concrete poles.
   c. Fiberglass poles.

C. Conductors:

1. Use one or more of the following:
   a. Soft drawn copper.
   b. Aluminum alloy 1350.
2. Do not use:
   a. Copper-clad aluminum.

D. Conduits:

1. Use the following:
   a. Nonmetallic (thick-walled PVC) conduit with wires for direct burial.
   b. Nonmetallic (thin-walled PVC) conduit with wires to be encased in concrete.
   c. Rigid metal conduit for above grade use only.
2. Do not use:
   a. Intermediate metal conduit.
   b. Rigid nonmetallic conduit.
   c. Electrical metallic tubing.

END OF CHAPTER G34

SECTION 01770

CONTRACT CLOSEOUT
AM #0004 and #0005

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

MILITARY SPECIFICATIONS (MIL)

MIL-M-9868E	Microfilming of Engineering Data, 35mm, Requirements For

TRI-SERVICE CADD/GIS TECHNOLOGY CENTER (TSC)

TSC-01	A/E/C CADD Standard Manual (Current Release as of Contract Award date)

U.S. ARMY CORPS OF ENGINEERS (COE)

COE-02	ARCHITECTURAL AND ENGINEERING INSTRUCTIONS MANUAL (SWD-AEIM), Southwestern Division (Current issue as of Contract Award date)

1.2 PAYMENT

Contract closeout activities such as, but not limited to, operation and maintenance manuals, record drawings, warranty requirements, equipment warranty identification tags, and inventories, real property maintenance records, payrolls, and shop drawing submittals, are subsidiary activities of the contract work; separate payment will not be made for any activity unless otherwise specified. Final contract payment will not be made until completion and approval of all contract closeout activities.

1.3 HVAC TESTING

The HVAC Testing that the Contractor schedules after substantial completion pursuant to paragraph entitled "Testing of Heating and Air-Conditioning Systems" of Section 01000 CONSTRUCTION SCHEDULE has a value to the Government of 10 percent of the value of the equipment to be tested. The Contractor shall reserve that amount to be paid on any equipment that will require testing after substantial completion pursuant to the above referenced specification paragraph.

1.4 OPERATION AND MAINTENANCE MANUALS

The Contractor shall be responsible for the preparation, coordination, execution and submittal of all operation and maintenance manuals (O & M Manuals), including spare parts lists, special tools, inventories of

equipment manuals and maintenance instructions, and shall conduct all training for operating and service personnel. Operation and maintenance manuals shall cover all system installations provided in this contract and shall be in sufficient detail to facilitate normal maintenance and troubleshooting by persons with minimum experience with the installed equipment.

1.4.1 Submittal Requirements

All of the above listed items required in the technical specifications shall be submitted to the Contracting Officer not less than 90 days prior to the scheduled contract completion date. Fully developed and approved operation and maintenance manuals shall be provided 30 days prior to scheduling training for operating and service personnel. The Contractor shall coordinate the content of each instruction period required in the technical specifications with the Contracting Officer's Representative prior to the actual start of the training period.

1.4.1.1 Video taping of Training for Operating and Service Personnel

Each instruction or training period as discussed above, shall be video taped in VHS FORMAT by the Contractor. The taping shall include the entire session(s). The original video tape(s) shall be labeled and turned over to the Contracting Officer. The video camera and tapes utilized by the Contractor, shall be of a quality to enable clear and understandable playbacks of the recorded events.

1.4.1.2 Draft O & M Manuals

On those systems where complete and comprehensive operation and maintenance manuals cannot be fully developed until the system(s) is checked, tested, and/or balanced, and the checking, testing, and/or balancing has not been done when submittals are required, a proposed draft of those system manual(s) shall be submitted. 10 percent of the each subsequent scheduled progress payment will be retained until the complete O & M Manuals submittal package have been submitted and approved. Submit fully developed O & M Manuals of the drafts for approval after the systems have been checked, tested, and/or balanced.

1.4.1.3 Commencement of Warranty of Construction

Failure to submit all specified O & M manuals, spare parts listings, spare parts, special tools, inventories of installed property, and training video tapes in a timely manner will be considered as delaying substantial completion of the work. Commencement of warranty under the Contract Clause WARRANTY OF CONSTRUCTION will not occur until all these items are delivered and approved by the Contracting Officer, but not earlier than the date of final acceptance of the work by the Government. When the O & M Manuals with drafts are approved they will not constitute a reason for delaying the start of the warranty period.

1.4.2 Government Possession of Work

The Government may take possession of any completed or partially completed work as provided for under Contract Clause entitled "USE AND POSSESSION PRIOR TO COMPLETION." If the installed equipment and/or systems thereto, have not been accepted by the Government due to the Contractor's failure to submit the above specified items, the Contractor shall operate and maintain such plant or system at no additional cost to

the Government until such time that the specified items have been received, approved and any subsequent testing, check-out and/or training has been completed.

1.5 PREPARATION AND SUBMISSION OF OPERATION AND MAINTENANCE MANUALS

This paragraph establishes general requirements for the preparation and submission of equipment operating, maintenance, and repair manuals as called for in the various sections of the specifications. Specific instruction(s) relating to a particular system or piece of equipment shall be incorporated into the manuals in accordance with the applicable technical specification.

1.5.1 General Requirements

Furnish operations and maintenance manuals on CD-ROM disk along with a single hard copy. Documents on the CD-ROM disk shall be in portable document format (.pdf); all printed and graphic documents, drawings, and illustrations shall be legible. Hard copy requirements are specified below.

1.5.1.1 Hard Cover Binders

The manuals shall be permanently bound and have a hard cover. The following identification shall be inscribed on the cover: the words "EQUIPMENT OPERATING, MAINTENANCE, AND REPAIR MANUAL:" and the name, building number, location, and indication of utility or systems covered. Manuals shall be approximately 216 mm by 279 mm (8-1/2 by 11 inches) with large sheets folded in and capable of being easily pulled out for reference. All manuals for a single facility must be similar in appearance.

1.5.1.2 Warning Page

A warning page shall be provided to warn of potential dangers (if they exist), such as high voltage, toxic chemicals, flammable liquids, explosive materials, carcinogens, or high pressures. The warning page shall be placed inside the front cover, in front of the title page.

1.5.1.3 Title Page

The title page shall show the name of the preparing firm (designer or contractor) and the date of publication.

1.5.1.4 Table of Contents

Provide in accordance with standard commercial practice.

1.5.2 Equipment Operating, Maintenance, and Repair Manuals

1.5.2.1 General

Separate manuals shall be provided for each utility system as defined hereinafter. Manuals shall be provided in the number of copies specified in the applicable technical section. Manuals shall include, in separate sections, the following information for each item of equipment:

a. Performance sheets and graphs showing capacity data,

efficiencies, electrical characteristics, pressure drops, and flow rates. Marked-up catalogs or catalog pages do not satisfy this requirement. Performance information shall be presented as concisely as possible and contain only data pertaining to equipment actually installed.

b. Catalog cuts showing application information.

c. Installation information showing minimum acceptable requirements.

d. Operation and maintenance requirements. Include adequate illustrative material to identify and locate operating controls, indicating devices and locations of areas or items requiring maintenance.

(1) Describe, in detail, starting and stopping procedures for components, adjustments required to obtain optimum equipment performance, and corrective actions for malfunctions.

(2) Maintenance instructions describing the nature and frequency of routine maintenance and procedures to be followed. Indicate any special tools, materials, and test equipment that may be required.

e. Repair information including diagrams and schematics, guidance for diagnosing problems, and detailed instructions for making repairs. Provide troubleshooting information that includes a statement of the indication or symptom of trouble and the sequential instructions necessary. Include test hookups to determine the cause, special tools and test equipment, and methods for returning the equipment to operating conditions. Information may be in chart form or in tabular format with appropriate headings.

f. Parts lists and names and addresses of closest parts supply agencies.

g. Names and addresses of local manufacturers representatives.

1.5.2.2 Facility Heating Systems

Information shall be provided on the following equipment: Boilers, water treatment, chemical feed pumps and tanks, converters, heat exchangers, pumps, unit heaters, fin-tube radiation, air handling units (both heating only and heating and cooling), and valves (associated with heating systems).

1.5.2.3 Air-Conditioning Systems

Provide information on chillers, packaged air-conditioning equipment, towers, water treatment, chemical feed pumps and tanks, air-cooled condensers, pumps, compressors, air handling units, and valves (associated with air-conditioning systems).

1.5.2.4 Temperature Control and HVAC Distribution Systems

a. Provide the information described for the following equipment:

Valves, fans, air handling units, pumps, boilers, converters, and heat exchangers, chillers, water cooled condensers, cooling towers, and fin-tube radiation.

b. Provide all information described for the following equipment:

Control air compressors, control components (sensors, controllers, adapters, and actuators), and flow measuring equipment.

1.5.2.5 Exterior Electrical Systems

Information shall be provided on the following equipment: Power transformers, relays, reclosers, breakers, and capacitor bank controls.

1.5.2.6 Interior Electrical Systems

Information shall be provided on the following equipment: Relays, motor control centers, switchgear, solid state circuit breakers, motor controller, and EPS lighting systems, control systems (wire diagrams and troubleshooting flow chart), and special grounding systems.

1.5.2.7 Energy Management and Control System

The maintenance manual shall include descriptions of maintenance for all equipment, including inspection, periodic preventative maintenance, fault diagnosis, and repair or replacement of defective components.

1.5.2.8 Domestic Water Systems

The identified information shall be provided on the following equipment: Tanks, unit process equipment, pumps, motors, control and monitoring instrumentation, laboratory test equipment, chemical feeders, valves, switching gear, and automatic controls.

1.5.2.9 Fire Protection Systems

Information shall be provided on the following equipment: Alarm valves, manual valves, regulators, foam and gas storage tanks, piping materials, sprinkler heads, nozzles, pumps, and pump drivers.

1.5.2.10 Fire Detection Systems

The maintenance manual shall include description of maintenance for all equipment, including inspection, periodic preventive maintenance, fault diagnosis, and repair or replacement of defective components.

1.5.2.11 Plumbing Systems

Information shall be provided on the following equipment: Water heaters, valves, pressure regulators, backflow preventors, piping materials, and plumbing fixtures.

1.5.2.12 Cathodic Protection Systems

Information shall be provided on the following material and equipment: Rectifiers, meters, anodes, anode backfill, anode lead wire, insulation material and wire size, automatic controls (if any), rheostats, switches, fuses and circuit breakers, type and size of rectifying elements, type of oil in oil-immersed rectifiers, and rating of shunts.

1.5.2.13 Generator Installations

Information shall be provided on the following equipment: Generator sets, automatic transfer panels, governors, exciters, regulators, starting systems, switchgear, and protective devices.

1.5.2.14 Miscellaneous Systems

Information shall be provided on the following: Communication and ADP systems, security and intrusion alarm, elevators, material handling, active solar, photovoltaic, and other similar type special systems not otherwise specified.

1.6 RECORD DRAWINGS

Record drawings shall be a record of the construction as installed and completed by the Contractor. They are a record of all deviations, modifications, or changes from contract set of drawings (the accepted 100% design drawings), however minor, which were incorporated in the work. They include all the information shown on the contract set of drawings, any Contractor-original drawings, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work.

1.6.1 Contractor-Original Record Drawings

Contractor-original record drawings are those drawings drawn by the Contractor, after acceptance of the 100% design documents and the start of construction, to further explain the Contract documents such as subcontractor submittals for fire protection/detection, communication, and other systems, and accepted Contractor's solutions to problems. Submit these drawings as full-size reproducible sheets and CADD files. CADD files shall conform to the Working CADD file requirements specified in paragraph "Final Record Drawings."

1.6.2 Preliminary Record Drawings

The Contractor shall mark up both a reproducible set and a set of prints to show as-built conditions. These two sets, hereafter called preliminary record drawings, or singly, reproducibles or prints, shall be kept current and available on the jobsite at all times, except as noted below. A member of the Contractor's Quality Control Organization shall be assigned responsibility for the maintenance and currency of the preliminary record drawings. This assignment and any reassignment of duties concerning the maintenance of the record drawings shall be promptly reported to the Contracting Officer's representative for approval. All changes from the contract drawings which are made in the work or additional information which might be uncovered in the course of construction, including uncharted utilities, shall be accurately and neatly recorded as they occur by means of details and notes. All changes and/or required additions to the preliminary record drawings shall be clearly identified in a contrasting color and which is compatible with reproduction of the preliminary record drawings. Preliminary record drawings shall be updated by Friday of each week. During periods when the reproducibles are being copied and are therefore not available at the jobsite, the Contractor shall continue posting all required data to the prints. The Contractor shall minimize the time that the reproducibles are away from the jobsite and shall update them with all as-built data immediately upon their return. The preliminary record drawings will be jointly inspected for accuracy and completeness by the Contracting Officer's representative and the assigned

representative of the Contractor's Quality Control Organization prior to submission of each monthly pay estimate. See paragraph, "Withholding for Preliminary Record Drawings." The record drawings shall show the following information, but not be limited thereto:

a. The location and description of utility lines or other installation of any kind or description known to or found to exist within the construction area. The location of exterior utilities includes actual measured horizontal distances from utilities to permanent facilities/ features. These measurements shall be within an accuracy range of 150 mm and shall be shown at sufficient points to permit easy location of utilities for future maintenance purposes. Measurements shall be shown for all change of direction points and all surface or underground components such as valves, manholes, drop inlets, cleanouts, meter, etc. The general depth range of each underground utility line shall be shown (i.e., 900 mm to 1200 mm in depth). The description of exterior utilities includes the actual quantity, size, and material of utility lines.

b. The location and size of all uncharted existing utilities encountered.

c. The location and dimensions of any changes within the building or structure.

d. Correct grade or alinement of roads, structures or utilities if any changes were made from contract drawings.

e. Correct elevations if changes were made in site grading.

f. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

g. The topography and grades of all drainage installed or affected as a part of the project construction.

h. Options

Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the record drawings.

1.6.2.1 Blue Line or Black Line Prints

Blue line or black line prints shall be full size. All blue or black line prints shall exhibit good readable print with clear, sharp, dark lines, and shall not be smeared, faded, double imaged, or have torn or ragged edges.

1.6.2.2 Prefinal Inspection For Each Item of Work

As part of the prefinal inspection for each item of work, the preliminary record drawings will be reviewed. They shall comply with this specification prior to scheduling the final inspection, and/or prior to substantial completion of the item of work.

1.6.2.3 Preliminary Record Drawing Final Submittal

Prior to scheduling the final acceptance inspection of the last or only bid schedule item of work, the preliminary record drawings shall be completed and delivered to the Contracting Officer's Representative for review and acceptance. If upon review, the drawings are found to contain errors and/or omissions, they will be returned to the Contractor for corrections. Failure of the Contractor to make timely delivery of the preliminary record drawings on any or all items of work will be cause for the Government to delay substantial completion and to assess liquidated damages in accordance with the terms and conditions of the contract.

1.6.2.4 Withholding for Preliminary Record Drawings

Failure by the Contractor to maintain current and satisfactory preliminary record drawings in accordance with these requirements will result in withholding from progress payments 10 percent of the progress payment amount until such time as the record drawings are brought into compliance. This withheld amount will be indicated on monthly payment estimates until the Contractor has fulfilled these contract requirements.

1.6.2.5 Final Inspection

For each interim item of work, furnish a copy of the preliminary record drawings for that item, which the Contractor has reproduced from the approved preliminary record drawing reproducibles, to the Contracting Officer's representative at the time of final inspection for that item. At the time of final inspection on the last or only item of work, the Contractor shall deliver a copy of the complete set of the approved preliminary record drawings to the Contracting Officer's Representative.

1.6.3 Final Record Drawings

Upon approval of the preliminary record drawings, the Contracting Officer will return the approved preliminary record drawing prints back to the Contractor. The Contractor will then modify the CADD files as may be necessary to correctly show all the features of the project as it was constructed by bringing the contract set into agreement with the preliminary record drawings, including adding additional drawings and CADD files as may be necessary. The Contractor shall furnish the as-built drawings in the same file format as the Working CADD files. These CADD files are part of the permanent records of this project and the Contractor shall be responsible for the protection and safety thereof until final submittal to the Contracting Officer. Drawings, tracings, or CADD files damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at the Contractor's expense. CADD files will be audited by the Contracting Officer and for accuracy and conformance to the above specified drafting and CADD standards.

1.6.3.1 Drafting

Only personnel proficient in the preparation of engineering drawings and CADD shall be employed to modify the original contract drawings, prepare additional new drawings, and modify the CADD files. All modifications and new drawings shall conform to applicable requirements specified in the paragraph "CADD Standards." The Contractor shall ensure that all delivered CADD digital files and data (e.g., sheet files, model files, cell/block libraries) are compatible with the Government's target CADD system and operating system, and adhere to the standards and

requirements specified. The term "compatible" means that data is in native digital format i.e., .dgn (MicroStation) or .dwg (AutoCAD). It is the responsibility of the Contractor to ensure this level of compatibility.

1.6.3.2 CADD Standards

CADD Standards are specified in Section 01016 DESIGN DOCUMENT REQUIREMENTS.

1.6.3.3 Final Revisions

When final revisions have been completed, place the words "REVISED RECORD DRAWING," in letters at least 5 mm high, and the date of completion in the revision block above the latest existing revision notation on each drawing CADD file.

1.6.3.4 Border Sheets

The border sheet to be used for any new record drawings shall be the same as used on the original drawings.

1.6.3.5 Copies of the Final Record Drawings

Blue line or black line prints shall be full size. All blue or black line prints shall exhibit good readable print with clear, sharp, dark lines, and shall not be smeared, faded, double imaged, or have torn or ragged edges.

1.6.3.6 Submittal Requirements

The Contractor shall submit to the Contracting Officer the final record drawings, consisting of one set of full size blue line or black line prints, one full size vellum reproducible set, and two sets of corrected CADD files on CD-ROM disks; verification that the CADD files have been loaded and work on the designated computer systems and are error- and virus-free; the approved preliminary blue lines; and all required reproduced items. All paper prints, reproducible drawings, and CADD files will become the property of the Government.

(Am#4) **a. Sustainable Project Rating Tool (SPiRiT)**

Submit a final update of the Contractor's Proposal's Sustainable Project Rating Tool (SPiRiT) sheets, indicating the achievement of the listed elements and the achievement level of the various goals listed in Volume II DESIGN AND PERFORMANCE REQUIREMENTS, PERFORMANCE REQUIREMENTS Chapter 111 FACILITY PERFORMANCE, paragraph "Environmental Responsible Design." Provide certification of achievement of the specified rating.

1.6.4 Post-Record Drawing Work

In event the Contractor accomplishes additional work which changes the as-built conditions of the facility after submission of the record drawings, the Contractor shall furnish revised and/or additional drawings (hard copy and CADD files), as required to depict as-built conditions. The requirements for these additional drawings, including CADD files, will be the same as for the record drawings included in the original submission.

1.6.5 Payment for Final Record Drawings

The amount listed for Final Record Drawings in the Price Proposal Schedule will be paid to the Contractor upon the Contracting Officer's acceptance of the completed record drawings.

1.7 ADDITIONAL WARRANTY REQUIREMENTS

The warranty requirements specified in this paragraph are in addition to those specified in the Contract Clause WARRANTY OF CONSTRUCTION in Section 00700 CONTRACT CLAUSES.

1.7.1 Performance Bond

It is understood that the Contractor's Performance Bond will remain effective throughout the life of all warranties and warranty extensions. This paragraph is applicable to the Contractor's Warranty of Construction only and does not apply to manufacturers' warranties on equipment, roofing, and other products.

(a) In the event the Contractor or the Contractor's designated representative fails to commence and diligently pursue any work required under the Warranty of Construction Paragraph within a reasonable time after receipt of written notification pursuant to the requirements thereof, the Contracting Officer shall have a right to demand that said work be performed under the Performance Bond by making written notice on the surety. If the surety fails or refuses to perform the obligation it assumed under the Performance Bond, the Contracting Officer shall have the work performed by others, and after completion of the work, shall make demand for reimbursement of any or all expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

(b) Warranty repair work which arises to threaten the health or safety of personnel, the physical safety of property or equipment, or which impairs operations, habitability of living spaces, etc., will be handled by the Contractor on an immediate basis as directed verbally by the Contracting Officer or the Contracting Officer's authorized representative. Written verification will follow verbal instructions. Failure of the Contractor to respond as verbally directed will be cause for the Contracting Officer or the Contracting Officer's authorized representative to have the warranty repair work performed by others and to proceed against the Contractor as outlined in the paragraph (a) above.

1.7.2 Pre-Warranty Conference

Prior to contract completion and at a time designated by the Contracting Officer or Contracting Officer's authorized representative, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of Contract Clause WARRANTY OF CONSTRUCTION. Communication procedures for Contractor notification of warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer or Contracting Officer's authorized representative for the execution of the construction warranty shall be established/reviewed at this meeting.

In connection with these requirements and at the time of the Contractor's quality control completion inspection, the Contractor will

furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue warranty work action on behalf of the Contractor. This single point of contact will be located within the local service area of the warrantied construction, will be continuously available, and will be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of Contractor's responsibilities in connection with Contract Clause WARRANTY OF CONSTRUCTION.

1.7.3 Equipment Warranty Identification Tags

The Contractor shall provide warranty identification tags on all equipment installed under this contract. Tags and installation shall be in accordance with the requirements of Paragraph: EQUIPMENT WARRANTY IDENTIFICATION TAGS.

1.7.4 Contractor's Response to Construction Warranty Service Requirements

Following oral or written notification by the Contracting Officer, the Contractor shall respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. The Contractor shall submit a report on any warranty item that has been repaired during the warranty period. The report shall include the cause of the problem, date reported, corrective action taken, and when the repair was completed. **DELETED [AM #0005]**

a. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.

b. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.

c. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.

d. The "Construction Warranty Service Priority List" is as follows:

Code 1-Air Conditioning Systems
(1) Recreational support.
(2) Air conditioning leak in part of building, if causing damage.
(3) Air conditioning system not cooling properly.

Code 1-Doors
(1) Overhead doors not operational, causing a security, fire, or safety problem.
(2) Interior, exterior personnel doors or hardware, not functioning properly, causing a security, fire, or safety problem.

Code 3-Doors
(1) Overhead doors not operational.
(2) Interior/exterior personnel doors or hardware not functioning properly.

Code 1-Electrical

(1) Power failure (entire area or any building operational after 1600 hours).
(2) Security lights
(3) Smoke detectors

Code 2-Electrical
(1) Power failure (no power to a room or part of building).
(2) Receptacle and lights (in a room or part of building).

Code 3-Electrical
Street lights.

Code 1-Gas
(1) Leaks and breaks.
(2) No gas to family housing unit or cantonment area.

Code 1-Heat
(1). Area power failure affecting heat.
(2). Heater in unit not working.

Code 2-Kitchen Equipment
(1) Dishwasher not operating properly.
(2) All other equipment hampering preparation of a meal.

Code 1-Plumbing
(1) Hot water heater failure.
(2) Leaking water supply pipes.

Code 2-Plumbing
(1) Flush valves not operating properly.
(2) Fixture drain, supply line to commode, or any water pipe leaking.
(3) Commode leaking at base.

Code 3 -Plumbing
Leaky faucets.

Code 3-Interior
(1) Floors damaged.
(2) Paint chipping or peeling.
(3) Casework.

Code 1-Roof Leaks
Temporary repairs will be made where major damage to property is occurring.

Code 2-Roof Leaks
Where major damage to property is not occurring, check for location of leak during rain and complete repairs on a Code 2 basis.

Code 2-Water (Exterior)
No water to facility.

Code 2-Water (Hot)
No hot water in portion of building listed.

Code 3-All other work not listed above.

1.8 EQUIPMENT WARRANTY IDENTIFICATION TAGS

1.8.1 General Requirements

The Contractor shall provide warranty identification tags on all Contractor and Government furnished equipment which he has installed.

1.8.1.1 Tag Description and Installation

The tags shall be similar in format and size to the exhibits provided by this specification, they shall be suitable for interior and exterior locations, resistant to solvents, abrasion, and to fading caused by sunlight, precipitation, etc. These tags shall have a permanent pressure-sensitive adhesive back, and they shall be installed in a position that is easily (or most easily) noticeable. Contractor furnished equipment that has differing warranties on its components will have each component tagged.

1.8.1.2 Sample Tags

Sample tags shall be submitted to the Contracting Officer's Authorized Representative for review and approval. These tags shall be filled out representative of how the Contractor will complete all other tags.

1.8.1.3 Tags for Warranted Equipment

The tag for this equipment shall be similar to the following. Exact format and size will be as approved by the Contracting Officer's Authorized Representative. The Contractor warranty expires (warranty expiration date) and the final manufacturer's warranty expiration dates will be determined as specified by the Paragraph "WARRANTY OF CONSTRUCTION."

EQUIPMENT WARRANTY CONTRACTOR FURNISHED EQUIPMENT
MFG_____ MODEL NO._____
SERIAL NO._____
CONTRACT NO._____
CONTRACTOR NAME_____
CONTRACTOR WARRANTY EXPIRES_____
MFG WARRANTY(IES) EXPIRE_____

EQUIPMENT WARRANTY GOVERNMENT FURNISHED EQUIPMENT
MFG_____ MODEL NO._____
SERIAL NO._____
CONTRACT NO._____
DATE EQUIP PLACED IN SERVICE_____
MFG WARRANTY(IES) EXPIRE_____

1.8.1.4 Duplicate Information

If the manufacturer's name (MFG), model number and serial number are on the manufacturer's equipment data plate and this data plate is easily found and fully legible, this information need not be duplicated on the equipment warranty tag.

1.8.2 Execution

The Contractor will complete the required information on each tag and install these tags on the equipment by the time of and as a condition of final acceptance of the equipment. The Contractor will schedule this activity in the Contractor progress reporting system. The final acceptance inspection is scheduled based upon notice from the Contractor, thus if the Contractor is at fault in this inspection being delayed, the Contractor will, at the Contractor's own expense, update the in-service and warranty expiration dates on these tags.

1.8.3 Payment

The work outlined above is a subsidiary portion of the contract work, and has a value to the Government approximating 5% of the value of the Contractor furnished equipment. The Contractor will assign up to that amount, as approved by the Contracting Officer's Authorized Representative.

1.8.4 Equipment Warranty Tag Replacement

Under the terms of this contract, the Contractor's warranty with respect to work repaired or replaced shall run for one year from the date of repair or replacement. Such activity shall include an updated warranty identification tag on the repaired or replaced equipment. The tag shall be furnished and installed by the Contractor, and shall be identical to the original tag, except that the Contractor's warranty expiration date will be one year from the date of acceptance of the repair or replacement.

1.9 INVENTORY OF CONTRACTOR FURNISHED AND INSTALLED EQUIPMENT

A list of equipment or units of equipment that require electrical power or fuel, or may require removal or replacement such as AHUs, fans, air conditioners, compressors, condensers, boiler, thermal exchangers, pumps, cooling towers, tanks, fire hydrants, sinks, water closets, lavatories, urinals, shower stalls, and any other large plumbing fixtures, light fixtures, etc., shall be made and kept up to date as installed. The list shall be reviewed periodically by the Government to insure completeness and accuracy. Partial payment will be withheld for equipment not incorporated in the list. List shall include on each item as applicable: Description, Manufacturer, Model or Catalog No., Serial No., Input (power, voltage, BTU, etc.), Output (power, voltage, BTU, tons, etc.), Size or Capacity (tanks), and net inventory costs; any other data necessary to describe item and shall list all warrantors and warranty periods for each item of equipment. Final list shall be turned over to the Authorized Representative of the Contracting Officer at the time of the Contractor's quality control completion inspection.

1.10 INVENTORY OF GOVERNMENT FURNISHED CONTRACTOR INSTALLED EQUIPMENT (GF/CI)

A list of all GFE shall be developed starting with equipment items listed in Section 01640 GOVERNMENT FURNISHED PROPERTY; and updated as necessary to reflect contract changes. Equipment items will be as defined under inventory of Contractor furnished equipment above and the list shall include, on each item, as applicable, the same information. The final list shall be turned over to the Contracting Officer's Representative, at the time of the Contractor's quality control inspection.

1.11 REAL PROPERTY MAINTENANCE RECORDS

Prepare DD Form 1354, TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY, so that the bases can update their real property maintenance records, in accordance with the applicable bases' DPW or Base Civil Engineers' (BCE) office. This form shall contain as many of the resource code items with cost and quantity data as can be developed from the task order final documents. Obtain a general list of resource codes with cost and quantity data from the applicable bases' DPW or BCE office. This form and a sample of a completed form are attached to the end of this Section. An electronic file of the form, DD1354.frl, for use with Delrina Perform Pro Form Filler, version 16 Jul 1992, is located on the Solicitation CD-ROM disk. Contractor shall prepare the DD1354 using Delrina Perform Pro Form Filler. Contractor shall obtain DPW or BCE approval of a Draft DD1354 not less than 30 days prior to anticipated Task Order completion date. The Final DD 1354 shall be provided at the

Final Inspection for Corps of Engineers and DPW or BCE signature.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

-- End of Section --

Library / Ed Center

Ft Polk, LA

U S Army Corps of Engineers
Fort Worth District

NOTES

- ALL AREAS ARE IN SQUARE FEET
- THIS DIAGRAM REPRESENTS BASIC ADJACENCIES REQUIRED BY THE DIFFERENT USERS. DESIGNER / BUILDER SHALL EVALUATE THIS DIAGRAM AND COORDINATE WITH USER ALL / ANY MODIFICATIONS AND CHANGES TO THE PROGRAM OF AREAS.
- THE DESIGNER / BUILDER SHALL NOT BE FORCED TO A PARTICULAR SOLUTION OR INFLUENCED BY THIS DIAGRAM TO A PARTICULAR FLOOR PLAN. IT IS ENCOURAGED THAT THE DESIGNER REACH ITS OWN CONCLUSIONS AND RECOMMENDATIONS BASED ON PROGRAM REQUIREMENTS AND CRITERIA.
- DEPENDING ON THE PROPOSER'S SOLUTION, IT MAY BE NECESSARY TO SUBDIVIDE AREAS LIKE LOBBIES AND MECHANICAL ROOMS TO FURTHER SATISFY THE BUILDING NEEDS. FOR EXAMPLE, THE "TESTING AREA" MAY NEED A SEPARATE WAITING ROOM IF THE MAIN LOBBY IS NOT ADEQUATE TO ALLOCATE THIS FUNCTION THERE.
- DUE TO PROGRAMMING CONSTRAINTS, THE LIBRARY WILL NOT HAVE A LARGE CONFERENCE ROOM OR COMPUTER ROOM. IT IS DESIRED THAT THE RESOURCES LOCATED IN THE EDUCATION CENTER BE MADE AVAILABLE TO THE LIBRARY FOR SHARING OF THESE RESOURCES. IN LIGHT OF THIS, BOTH THE LECTURE ROOM AND THE COMPUTER ROOMS IN THE EDUCATION CENTER HAVE BEEN LOCATED IN CLOSE RELATIONSHIP WITH THE LIBRARY.
- BUILDING EXPANDABILITY IS OF UTMOST IMPORTANCE TO THE USER. THE LIBRARY EXPECTS TO SIGNIFICALLY INCREASE ITS BOOK COLLECTION IN THE YEARS TO COME. AS SUCH, IT WILL BECOME A BASIS OF EVALUATION FOR SELECTING THE APPROPRIATE FINAL SOLUTION.
- THE CLASSROOMS LOCATED IN BOTH THE G3 AND ED CTR OF THE FACILITY WILL BE OPERATED AFTER HOURS. DESIGN THESE AREAS SO THAT THEY ARE MADE AVAILABLE TO STUDENTS WHILE THE REST OF THE BUILDING REMAINS CLOSED.
- COORDINATE WITH POST MASTER PLANNING OFFICIALS TO COMPLEMENT ALL OTHER FACILITIES PLANNED FOR THIS AND OTHER SURROUNDING SITES. IT IS DESIRABLE THAT ALL BUILDINGS IN THIS AREA BECOME A SMALL "TOWN CENTER" FOR THE FORT POLK COMMUNITY.
- THE FOLLOWING CRITERIA SHOULD ALSO BE RESEARCHED FOR PLANNING OF THIS FACILITY:

  DG 1110-3-112 DESIGN GUIDE FOR ARMY CONTINUING EDUCATION CENTERS

  DG 1110-3-110 DESIGN GUIDE FOR ARMY LIBRARIES

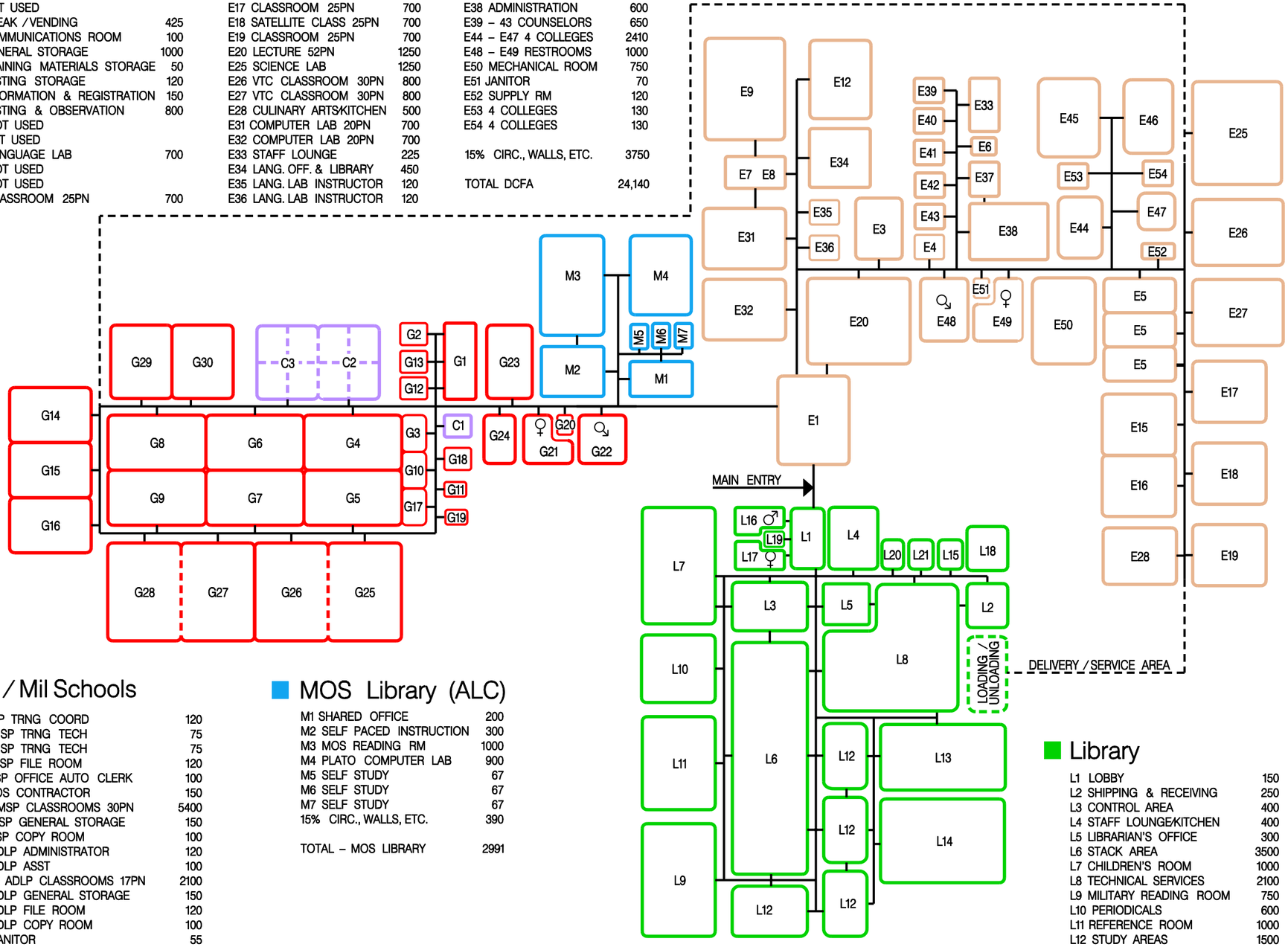
  FORT POLK INSTALLATION DESIGN GUIDE
- THE DESIGNER BUILDER WILL DESIGN THE LOADING / UNLOADING AREA OF THE LIBRARY FOR DELIVERY OF BOOKS IN CASES OF VARIOUS SIZES. AN ELEVATED PLATFORM IS NOT REQUIRED FOR THIS FUNCTION.

LEGEND

- PRIMARY RELATIONSHIP
- SECONDARY CONNECTION
- DASHED LINES BETWEEN ROOMS INDICATE MOVEABLE PARTITIONS.
- DASHED BLOCKS INDICATE EXTERIOR ACTIVITY (WITH ROOF)

DCFA Ed Div

E1	LOBBY	500	E16	CLASSROOM 25PN	700
E2	NOT USED		E17	CLASSROOM 25PN	700
E3	BREAK / VENDING	425	E18	SATELLITE CLASS 25PN	700
E4	COMMUNICATIONS ROOM	100	E19	CLASSROOM 25PN	700
E5	GENERAL STORAGE	1000	E20	LECTURE 52PN	1250
E6	TRAINING MATERIALS STORAGE	50	E25	SCIENCE LAB	1250
E7	TESTING STORAGE	120	E26	VTC CLASSROOM 30PN	800
E8	INFORMATION & REGISTRATION	150	E27	VTC CLASSROOM 30PN	800
E9	TESTING & OBSERVATION	800	E28	CULINARY ARTS/KITCHEN	500
E10	NOT USED		E31	COMPUTER LAB 20PN	700
E11	NOT USED		E32	COMPUTER LAB 20PN	700
E12	LANGUAGE LAB	700	E33	STAFF LOUNGE	225
E13	NOT USED		E34	LANG. OFF. & LIBRARY	450
E14	NOT USED		E35	LANG. LAB INSTRUCTOR	120
E15	CLASSROOM 25PN	700	E36	LANG. LAB INSTRUCTOR	120
E37	ED DIV DIRECTOR	270			
E38	ADMINISTRATION	600			
E39 – 43	COUNSELORS	650			
E44 – E47	4 COLLEGES	2410			
E48 – E49	RESTROOMS	1000			
E50	MECHANICAL ROOM	750			
E51	JANITOR	70			
E52	SUPPLY RM	120			
E53	4 COLLEGES	130			
E54	4 COLLEGES	130			
	15% CIRC., WALLS, ETC.	3750			
	TOTAL DCFA	24,140			



G3 / Mil Schools

G1	MSP TRNG COORD	120
	MSP TRNG TECH	75
	MSP TRNG TECH	75
	MSP FILE ROOM	120
G2	MSP OFFICE AUTO CLERK	100
G3	MOS CONTRACTOR	150
G4–9	MSP CLASSROOMS 30PN	5400
G10	MSP GENERAL STORAGE	150
G11	MSP COPY ROOM	100
G12	ADLP ADMINISTRATOR	120
G13	ADLP ASST	100
G14–16	ADLP CLASSROOMS 17PN	2100
G17	ADLP GENERAL STORAGE	150
G18	ADLP FILE ROOM	120
G19	ADLP COPY ROOM	100
G20	JANITOR	55
G21 – 22	RESTROOMS	370
G23	BREAK / VENDING	425
G24	STAFF LOUNGE	225
G25	CLASSROOM 30PN	900
G26	CLASSROOM 30PN	900
G27	CLASSROOM 30PN	900
G28	CLASSROOM 30PN	900
G29	COMPUTER LAB 20PN	700
G30	COMPUTER LAB 20PN	700
	15% CIRC., WALLS, ETC.	2663
	TOTAL G3 / MIL SCHOOLS	17718

MOS Library (ALC)

M1	SHARED OFFICE	200
M2	SELF PACED INSTRUCTION	300
M3	MOS READING RM	1000
M4	PLATO COMPUTER LAB	900
M5	SELF STUDY	67
M6	SELF STUDY	67
M7	SELF STUDY	67
	15% CIRC., WALLS, ETC.	390
	TOTAL – MOS LIBRARY	2991

CPAC DoD SCHOOLS

C1	ADMINISTRATOR	100
C2	CLASSROOM 25PN	700
C3	CLASSROOM 25 PN	700
	15% CIRC., WALLS, ETC.	237
	TOTAL – CPAC	1737

Library

L1	LOBBY	150
L2	SHIPPING & RECEIVING	250
L3	CONTROL AREA	400
L4	STAFF LOUNGE/KITCHEN	400
L5	LIBRARIAN'S OFFICE	300
L6	STACK AREA	3500
L7	CHILDREN'S ROOM	1000
L8	TECHNICAL SERVICES	2100
L9	MILITARY READING ROOM	750
L10	PERIODICALS	600
L11	REFERENCE ROOM	1000
L12	STUDY AREAS	1500
L13	STORAGE	1000
L14	MULTI-MEDIA	1100
L15	COMMUNICATIONS	120
L16 – 17	RESTROOMS	350
L18	MECHANICAL	255
L19	JANITOR	50
L20	STAFF TOILET & LOCKERS	100
L21	COFFEE BAR	(120)
	15% CIRC., WALLS, ETC.	2239
	TOTAL – LIBRARY	17164

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007

ATTACHMENT B

Schedule of Areas

For

Consolidated Library/Education Center

PN 002298
FY 02

CONSOLIDATED LIBRARY / EDUCATION CENTER - Schedule of Areas

Fort Polk, Louisiana

Room/Space	Area (SF)	Area (SM)	Space
Area 1 - Library			
Lobby	150.00	13.95	**L1**
Receiving/Input area	250.00	23.25	**L2**
Circulation Desk/Control Area	400.00	37.20	**L3**
Staff Lounge/Kitchen	400.00	37.20	**L4**
Librarian Office	300.00	27.90	**L5**
Stack Areas	3,500.00	325.50	**L6**
Children's Rm	1,000.00	93.00	**L7**
Technical Services	2,100.00	195.30	**L8**
Military Reading Rm	750.00	69.75	**L9**
Periodicals	600.00	55.80	**L10**
Reference Rm	1,000.00	93.00	**L11**
Study Areas	1,500.00	139.50	**L12**
Storage	1,000.00	93.00	**L13**
Multi-Media	1,100.00	102.30	**L14**
Communications	120.00	11.16	**L15**
Restrooms	350.00	32.55	**L16,17**
Mechanical	255.00	23.72	**L18**
Janitor	50.00	4.65	**L19**
Staff Toilet & Lockers	100.00	9.30	**L20**
Coffee Bar			**L21**
Circulation, walls, etc. (15%)	**2,239.00**	**208.23**	
Sub-Total	**17,164.00**	**1,596.25**	
Area 2 - MOS Library			
Shared Office	200.00	18.60	**M1**
Self-Paced Instruction 20PN	300.00	27.90	**M2**
MOS Library	1,000.00	93.00	**M3**
PLATO Computer Lab 20PN	900.00	83.70	**M4**
Self Study	67.00	6.23	**M5**
Self Study	67.00	6.23	**M6**
Self Study	67.00	6.23	**M7**
Circulation, walls, etc. (15%)	**390.00**	**36.27**	
Sub-Total	**2,991.00**	**231.66**	

Area 3 - Education Center - DCFA

Lobby	500.00	46.50	**E1**
(Not used)			**E2**
Break/Vending	425.00	39.53	**E3**
Communications Rm	100.00	9.30	**E4**
General Storage (3)	1,000.00	93.00	**E5**
Training Mats Storage	50.00	4.65	**E6**
Testing Storage	120.00	11.16	**E7**
Information & Registration	150.00	13.95	**E8**
Testing & Observation	800.00	74.40	**E9**
(Not used)			**E10**
(Not used)			**E11**
Language Lab	700.00	65.10	**E12**
(Not used)			**E13**
(Not used)			**E14**
Classroom 25PN	700.00	65.10	**E15**
Classroom 25PN	700.00	65.10	**E16**
Classroom 25PN	700.00	65.10	**E17**
Satellite Class 25PN	700.00	65.10	**E18**
Classroom 25PN	700.00	65.10	**E19**
Lecture 52PN	1,250.00	116.25	**E20**
Science Lab	1,250.00	116.25	**E25**
VTC Classroom 25PN	800.00	74.40	**E26**
VTC Classroom 25PN	800.00	74.40	**E27**
Culinary Arts / Kitchen	500.00	46.50	**E28**
Computer Lab 20PN	700.00	65.10	**E31**
Computer Lab 20PN	700.00	65.10	**E32**
Staff Lounge	225.00	20.93	**E33**
Lang. Lab Office & Library	450.00	41.85	**E34**
Lang. Lab Instructor	120.00	11.16	**E35**
Lang. Lab Instructor	120.00	11.16	**E36**
Ed Div Director	270.00	25.11	**E37**
Ed Div Administration	600.00	55.80	**E38**
Counselor 1	130.00	12.09	**E39**
Counselor 2	130.00	12.09	**E40**
Counselor 3	130.00	12.09	**E41**
Counselor 4	130.00	12.09	**E42**
Counselor 5	130.00	12.09	**E43**
4 Colleges - CMU	500.00	46.50	**E44**
4 Colleges - CTC	1,100.00	102.30	**E45**
4 Colleges - UIU	660.00	61.38	**E46**
4 Colleges - LSU	150.00	13.95	**E47**
4 Colleges - (Unassigned)	130.00	12.09	**E53**
4 Colleges - (Unassigned)	130.00	12.09	**E54**
Restrooms	1,000.00	93.00	**E48,49**
Mechanical	750.00	69.75	**E50**
Janitor	70.00	6.51	**E51**
Supply Rm	120.00	11.16	**E52**
Circulation, walls, etc. (15%)	**3,750.00**	**348.75**	

Sub-Total	**24,140.00**	**2,245.02**	
Area 4 - CPAC DoD Schools			
Administrator	100.00	9.30	**C1**
Classroom	700.00	65.10	**C2**
Classroom	700.00	65.10	**C3**
Circulation, walls, etc. (15%)	**237.00**	**22.04**	
Sub-Total	**1,737.00**	**161.54**	
Area 5 - G3/Mil Schools			
Trng Coordinator	120.00	11.16	**G1**
Training Tech	75.00	6.98	
Training Tech	75.00	6.98	
File Rm	120.00	11.16	
Office Auto Clerk	100.00	9.30	**G2**
MOS Contractor	150.00	13.95	**G3**
Classroom 30PN	900.00	83.70	**G4**
Classroom 30PN	900.00	83.70	**G5**
Classroom 30PN	900.00	83.70	**G6**
Classroom 30PN	900.00	83.70	**G7**
Classroom 30PN	900.00	83.70	**G8**
Classroom 30PN	900.00	83.70	**G9**
General Storage	150.00	13.95	**G10**
Copy Rm	100.00	9.30	**G11**
Administrator	120.00	11.16	**G12**
Assistant	100.00	9.30	**G13**
Classroom 17PN	700.00	65.10	**G14**
Classroom 17PN	700.00	65.10	**G15**
Classroom 17PN	700.00	65.10	**G16**
General Storage Rm	150.00	13.95	**G17**
File Room	120.00	11.16	**G18**
Copy Rm	100.00	9.30	**G19**
Janitor	55.00	5.12	**G20**
Restrooms	370.00	34.41	**G21,22**
Seminar / Break Rm	425.00	39.53	**G23**
Staff Lounge	225.00	20.93	**G24**
Classroom 30PN	900.00	83.70	**G25**
Classroom 30PN	900.00	83.70	**G26**
Classroom 30PN	900.00	83.70	**G27**
Classroom 30PN	900.00	83.70	**G28**
Computer Lab 20PN	700.00	65.10	**G29**
Computer Lab 20PN	700.00	65.10	**G30**
Circulation, walls, etc.	**2663.00**	**247.66**	
Sub-Total	**17,718.00**	**1,647.77**	
Total	**63,750.00**	**5,882.25**	

ATTACHMENT C

Room Functional Requirements
For
Consolidated Library/Education Center

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Common

Room Name: Lobby

E1

Relationships

Primary

Main lobby area for education Center.

Secondary

Also used as waiting room for Testing function (E7 – E9) within Ed Ctr. Designer-Builder may choose to provide separate waiting room for Testing Area.

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	500
No of Rooms Required:	1 ea.
Time and Days of Operation:	M – F 0800 - 1700

Existing Area

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC	NR
Plumbing	NR

Electrical

General use duplex receptacle(s) and one duplex receptacle for amplifier above ceiling near speaker.

Communications

Rough-in for recessed PA speaker and video camera. Coordinate location with waiting area.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for Chairs if used as Waiting Room for Testing Area

Equipment and Type

Space for wall mounted video camera,
recessed ceiling speaker and
PA amplifier

Remarks

Lighting level: 10 footcandles at finished floor.

Lobby will be partially used as a waiting area for personnel seeking counseling.

Provide conduits (with pull wires) and j-boxes for future wiring to allow monitoring of waiting area within lobby from rooms E37, and E39 thru E43 utilizing one video camera.

Provide mounting rack above ceiling to support 15 lbs PA amplifier. Coordinate rack location with speaker. Provide required conduits (with pull wires) and j-boxes for future wiring between amplifier and individual microphones in rooms E37, and E39 thru E43.

Note: If designer chooses to provide a separate waiting room then all requirements pertaining to the speaker, PA amplifier, and video camera apply to the waiting room and not the lobby.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Common

Room Name: Break / Vending

E3, G23

Relationships

Primary

Near restrooms and lobby areas.

Secondary

Near classroom areas.

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	425
No of Rooms Required:	1 ea.
Time and Days of Operation:	M – F 0800 - 1700
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

One duplex receptacle per vending machine. Additional general purpose receptacles.

Communications

No requirements

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

NR

Equipment and Type

Space for 4 vending machines minimum.

Remarks

Vending machines N.I.C.

Lighting level: 30 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Telecommunications Room

E4

Relationships

Primary

N/R

Secondary

N/R

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	100
No of Rooms Required:	designer choice
Time and Days of Operation:	M – S 24 hrs.
Existing Area	

Architecture

Flooring	NR
Ceiling	ACT 2' X2'
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

See remarks

Plumbing

NR

Electrical

Three wall mounted general use duplex receptacles. Two duplex receptacles mounted on plywood backboard each with a dedicated circuit. One quadraplex receptacle mounted on each equipment rack each with a dedicated circuit.

Communications

See design and performance requirements.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

NR

Equipment and Type

See design and performance requirements.

Remarks

Lighting level: 50 footcandles

Note: This room may be combined with room L15 if maximum horizontal wiring distances aren't exceeded by doing so. .

Room temperature shall be conditioned utilizing a mechanical system that is independent of the facility's central HVAC system. A thermostat inside the room shall control the temperature.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Storage

Room Name: General Storage

E5

Relationships

Primary

Near classrooms.

Secondary

Accessible from delivery area.

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	1000
No of Rooms Required:	3
Time and Days of Operation:	M – S 24 hrs.
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	No windows
Acoustics	NR

Engineering

HVAC

Plumbing

Electrical
One duplex receptacle per wall

Communications
No requirements

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Maximize storage shelving.

Equipment and Type

Remarks

Lighting level: 10 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Storage

Room Name: Training Materials Storage

E6

Relationships

Primary

Close to E5

Secondary

Close to testing area.

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	50
No of Rooms Required:	1 ea.
Time and Days of Operation:	M – S 24 hrs.
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	No windows
Acoustics	NR

Engineering

HVAC	Per Code
Plumbing	Per Code
Electrical	NR
Communications	NR
Fire Alarm System	Per NFPA and ADA

Furnishings

Furniture

Maximize storage shelves

Equipment and Type

Provide slop sink

Remarks

Lighting level: 5 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Testing

Room Name: Storage / Information & Registration

E7, 8

Relationships

Primary

Near Testing E10

Secondary

Near Self Study E12

Programming

Occupants	3 persons
Room Dimensions	
Sq Ft Required:	270 (120 for storage)
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	NR
Windows	No exterior windows
Acoustics	NR

Engineering

HVAC

Plumbing

Electrical
Five wall mounted duplex receptacles minimum. Locate all receptacles in registration area.

Communications
Two dual jack outlets located in registration area.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 3 desks & chairs, Work Table, Shelves/ Cab., Trash Can, Clock, Paper Storage, 3 File Cabinets, 6 safes (2W x 4D x 5H) one big door

Equipment and Type

Space for Copier, CPU, printers

Remarks

This is actually one room, E7 and E8 functions to be carried out in same room. Need glass panel to look into E9, E31.

Lighting level: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Testing & Observation

E9

Relationships

Primary

Near Information & Registration E8

Secondary

Near Testing Storage E7

Programming

Occupants	Up to 35 persons
Room Dimensions	
Sq Ft Required:	800
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	CPT
Ceiling	Sound rated ACT 2 x 2
Walls	Sound rated DW
Doors	NR
Windows	See remarks, no exterior windows
Acoustics	No req.

Engineering

HVAC

Plumbing

Electrical

General purpose duplex receptacles throughout the room.

Communications

One dual jack outlet at front of room.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for table for teacher, maximize desks for testers, minimum 25.

Equipment and Type

Remarks

Special observation windows to testers from reception area (E7 & E8). Sound proof if possible.

Mirrors in back corner clgs. at room, convex type.

Signage on walls

Lighting: 50 footcandles with dimmer control

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Language Lab

E12

Relationships

Primary

Near E9 & E34

Secondary

NR

Programming

Occupancy	30 students
Room Dimensions	
Sq Ft Required:	700
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Plumbing

Electrical
Minimum of two duplex receptacles for large screen TV's at front of room and general purpose duplex receptacles throughout room.

Communications
Dual jack outlet at front of room and dual jack TV outlet at front of room for satellite connections.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for storage of video/audio tapes

Equipment and Type

Space for two large screen TV's

Remarks

See design guide for layout.

Wired so instructor can listen to students. Contact Mr. Roger Skluzacek at 337-531-1537 for more information.

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ALC

Room Name: Self-Study

M5 - 7

Relationships

Primary

Next to M1

Secondary

Near M2, M3

Programming

Occupants	One person ea.
Room Dimensions	
Sq Ft Required:	67
No of Rooms Required:	3
Time and Days of Operation:	M – F 0800 - 1700
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	N/R
Windows	N/R
Acoustics	N/R

Engineering

HVAC
Per Code

Plumbing
N/R

Electrical
Duplex receptacles

Communications
One dual jack outlet and one TV jack.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Space for tables w/ chair or counter (built-in).

Equipment and Type

Space for VCR / TV in ea. room
Space for CPU in ea. room
Space for typewriters in one room only

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ALC

Room Name: MOS Reading Room

M3

Relationships

Primary

Next to M2

Secondary

Close to M1, M5-7

Programming

Occupants ---

Room Dimensions

Sq Ft Required: 1000

No of Rooms Required: 1

Time and Days of Operation: M – F 0800 - 1700

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	Dead Bolt Locks
Windows	Nice but not req'd
Acoustics	No req.

Engineering

HVAC

Plumbing

Electrical
Duplex receptacles. Coordinate locations with equipment layout.

Communications
Two dual jack outlets minimum. Coordinate locations with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Maximize shelving for books (access by staff only)

Adequate amount of library shelves for videos, pamphlets, CD's, books

Equipment and Type

Space for copier, microfiche, printer

Space for CPU's on ea. desk

Remarks

Need reception desk area

?? Opens into **M2**

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ALC

Room Name: Self-Paced Instruction

M2

Relationships

Primary

Next to M3

Secondary

Programming

Occupants

1 Administrator + max. # of work stations

Room Dimensions

Sq Ft Required: 300

No of Rooms Required: 1

Time and Days of Operation: M – F 0800 - 1700

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	Dead Bolt Locks, Secure Doors
Windows	Nice but not req'd
Acoustics	No req

Engineering

HVAC

To support all CPU's

Plumbing

Electrical

Duplex receptacles

Communications

Four dual jack outlets minimum.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for tables w/ work space, Chairs, Printer Desk
One Admin desk / office within space.

Equipment and Type

Space for CPU's, printers

Remarks

Lighting: 50 footcandles

* Opens into **M3**

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Classrooms

E15 –17
E19, C2-3

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupants	See remarks
Room Dimensions	
Sq Ft Required:	700
No of Rooms Required:	1 ea.
Time and Days of Operation:	M – S 0800 – 2200
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	Dead Bolt Locks
Windows	Nice but not req'd
Acoustics	NR

Engineering

HVAC	NR
Plumbing	NR

Electrical
Duplex receptacle above ceiling for future ceiling mounted projector. Three duplex receptacles in front of room - one near right corner (facing front of room), one, and one adjacent to TV mounting bracket.

Communications
Dual jack outlet located near corner duplex receptacle. Dual jack (one for satellite and one for CATV) TV outlet adjacent to TV mounting bracket.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Space for max. amount of desks w/ chairs
Lecture Stand
Space for 1 table / chair for instructor
Provide adequate storage closet in back of room and a small kitchenette w/ sink in each classroom.

Equipment and Type

Dry erase marker board
Large projection screen

Remarks

Lighting: 50 footcandles with dimmer control.

Provide proper structural support in ceiling for future multi media projector to be provided by others. In addition, provide all necessary conduit (with pull wire) and j-boxes to allow for future installation of wiring between projector and a CPU to be located in front right corner of room.

Provide mounting bracket on wall near ceiling to the right of projection screen to accommodate a 27 inch TV and a separate VCR.

C2-C3 classrooms need to be subdivided into 4 breakout areas each by means of flexible partitions.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Satellite Class

E18

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupants	25 students
Room Dimensions	
Sq Ft Required:	700
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1700
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	Dead Bolt Locks
Windows	Yes
Acoustics	NR

Engineering

HVAC

Plumbing

Electrical

Quadraplex receptacle centered at front of room for future 2-way conference equipment and one duplex receptacle per wall.

Communications

One dual jack outlet for 2-way conference equipment and one dual jack TV outlet for satellite connections at front of room.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for max. amount of tables, chairs
Provide adequate storage closet in back of room and a small kitchenette w/ sink in each classroom.

Equipment and Type

Space for Satellite 2-way conference equipment

Space for large monitor

Remarks

Lighting: 50 footcandles with dimmer control.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Classrooms

G25 - 28

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupants	30 students
Room Dimensions	
Sq Ft Required:	900
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 2200
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	Dead Bolt Locks
Windows	Yes
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Duplex receptacle above ceiling for future ceiling mounted projector. Three duplex receptacles in front of room - one near right corner (facing front of room), one centered, and one adjacent to TV mounting bracket.

Communications

Dual jack outlet located near corner duplex receptacle. Dual jack (one for satellite and one for CATV) TV outlet adjacent to TV mounting bracket.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 1 table & chair for instructor
Space for 30 desks, lecture stand

Provide adequate storage closet in back of room and a small kitchenette w/ sink in each classroom.

Equipment and Type

Large projection screen
Dry erase marker board

Remarks

Lighting: 50 footcandles with dimmer control.

Provide proper structural support in ceiling for future multi media projector to be provided by others. In addition, provide all necessary conduit (with pull wire) and j-boxes to allow for future installation of wiring between projector and a CPU to be located in front corner of room.

Provide mounting bracket on wall near ceiling to the right of projection screen to accommodate a 27 inch TV and a separate VCR.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Lecture Hall

E20

Relationships

Primary

Centrally located, near lobby area

Secondary

Accessible to Library, G3

Programming

Occupants	50 persons
Room Dimensions	
Sq Ft Required:	1250
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 – 2200 (*)
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	Dead Bolt Locks
Windows	Nice but not req'd
Acoustics	No req.

Engineering

HVAC

Plumbing

Electrical

Duplex receptacle above ceiling for future ceiling mounted projector. Three duplex receptacles in front of room - one near right corner (facing front of room), one centered, and one adjacent to TV mounting bracket.

Communications

Dual jack outlet located near corner duplex receptacle. Dual jack (one for sattelite and one for CATV) TV outlet adjacent to TV mounting bracket.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 50 desks, Lecture Stand, 1 Table / chair for instructor

Equipment and Type

Dry erase marker board

Large projection screen

Remarks

Lighting: 50 footcandles with dimmer control

Provide proper structural support in ceiling for future multi media projector to be provided by others. In addition, provide all necessary conduit (with pull wire) and j-boxes to allow for future installation of wiring between projector and a CPU to be located in front corner of room.

Provide mounting bracket on wall near ceiling to the right of projection screen to accommodate a 27 inch TV and a separate VCR.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Science Lab

E25

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupants	30 students
Room Dimensions	
Sq Ft Required:	1250
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Plumbing

Electrical
Duplex receptacle for instructor's CPU and general use receptacles throughout room. Also, duplex receptacle above ceiling for future ceiling mounted projector.

Communications
One dual jack outlet for instructor's CPU.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Student lab Counters w/sinks (max. amount)
Space for chem. Storage cabinet or closet.
Book Shelving

Same as E14

Equipment and Type

Space for CPU for instructor
Marker Board Screens
Projection Equipment

Remarks

Provide Safety Shower & Eye Wash

Lighting: 75 footcandles with dimmer control

Provide proper structural support in ceiling for future multi media projector to be provided by others. In addition, provide all necessary conduit (with pull wire) and j-boxes to allow for future installation of wiring between projector and instructor's CPU.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: VTC Classrooms (Video Two-way Conference)

E26, 27

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupants 30 students + 1 instructor

Room Dimensions

Sq Ft Required: 800

No of Rooms Required: 2

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	NR
Windows	Yes
Acoustics	NR

Engineering

HVAC
Per Code

Plumbing
Per Code

Electrical
Same requirements as rooms G14-16 except 31 recessed floor boxes are required.

Communications
Same requirements as rooms G14-16 except for 30 students

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Space for tables & chairs (30 plus 1 instructor)

Equipment and Type

Space for big screen monitor, video cameras, microphones @ ea. desk.

Remarks

A path between each recessed box and VTC system is required for future installation of microphone cables.

Design will be identical to that for rooms G14-16 except for more students.

Lighting: 50 footcandles. Lighting shall be controlled by two dimmer switches (one switch for fixtures in front half of room and one for back half) and fixture layout shall be coordinated with workstation locations to minimize blooming (VTC system has a video camera that can focus on each student at each workstation).

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Culinary Arts Kitchen

E28

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupancy	25 students
Room Dimensions	
Sq Ft Required:	500
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	Tile
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Codes

Plumbing

Per Codes

Electrical

Provide required power to each piece of kitchen equipment.

Communications

Two dual jack outlets

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Cutting Tables
Tables & Chairs (4) (eat or study)

Equipment and Type

Stoves
Dishwashers
Refrigerators & Freezers
Sinks, etc.

Remarks

Same set up as commercial kitchen. All equipment indicated in “furnishings” will be included in contract.

Lighting: 70 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Computer Lab

G29 - 30
E31 - 32

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupants 20 students + one instructor

Room Dimensions

Sq Ft Required: 700

No of Rooms Required: 1 ea

Time and Days of Operation: M – S 0800 - 2200

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	NR
Windows	Yes
Acoustics	NR

Engineering

HVAC

To support CPU's

Plumbing

Electrical

21 recessed floor boxes containing a duplex receptacle and two 8-pin modular jacks for CPU's. Coordinate locations with furniture layout. In addition, one duplex receptacle per wall.

Communications

In addition to above, two dual jack outlets for printers.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for tables & chairs, instructor's table w/ chair, Locking cabinets & shelves for supply, chemical storage.

Equipment and Type

Dry erase marker board
20 CPU's for students and 1 for instructor

Space for printer, projection screen same as E14

Remarks

Lighting: 50 footcandles with dimmer control

This classroom will be used for both Biology and Chemistry classes.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ALC

Room Name: PLATO Computer Lab

M4

Relationships

Primary

In general classroom area

Secondary

Access to G3 classroom area

Programming

Occupants 20 + instructor

Room Dimensions

Sq Ft Required: 900

No of Rooms Required: 1

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	NR
Windows	Yes
Acoustics	NR

Engineering

HVAC To support CPU's

Plumbing

Electrical
21 recessed floor boxes containing a duplex receptacle and two 8-pin modular jacks for CPU's. Coordinate locations with furniture layout. In addition, one duplex receptacle per wall.

Communications
In addition to above, two dual jack outlets for printers.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Desks & chairs
Instructor's table w/ chair

Equipment and Type

Dry erase marker board

20 CPU's for students and one for instructor

Printer

Projection screen

Remarks

Lighting: 50 footcandles with dimmer control

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Staff Office

Room Name: Staff Lounge

E33, G24

Relationships

Primary

Close to restrooms, office areas

Secondary

NR

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	225 ea.
No of Rooms Required:	2
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Plumbing

Electrical
One duplex receptacle per wall minimum including one for refrigerator. One dedicated receptacle for microwave.

Communications
Two dual jack outlets

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 2 tables, 8 chairs

Equipment and Type

Bulletin Board

Kitchen cabinet & storage w/ space for microwave.

Space for refrigerator

Remarks

Lighting: 30 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div, Language Lab

Room Name: Language Lab Office & Library

E34

Relationships

Primary

Near language Lab

Secondary

Near Instructor's Offices

Programming

Occupants 2 persons

Room Dimensions

Sq Ft Required: 450

No of Rooms Required:

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC
Per Codes

Plumbing
Per Codes

Electrical
Duplex receptacles coordinated with furniture and equipment layout.

Communications
Three dual jack outlets coordinated with furniture and equipment layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Shelves x 12
Space for 2 desks, file cabinets

Equipment and Type

Space for copier

Remarks

See DG 1110-3-112

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Language Instructor

E35, 36

Relationships

Primary

Near language Lab

Secondary

NR

Programming

Occupants	1 person
Room Dimensions	
Sq Ft Required:	120
No of Rooms Required:	2
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Code

Plumbing

Per Code

Electrical

Four duplex receptacles minimum coordinated with furniture layout.

Communications

Two dual jack outlets and one TV outlet for satellite connection.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for desk & chairs, file cabinets, bookcase

Equipment and Type

Space for TV

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ALC

Room Name: Office

M1

Relationships

Primary

MOS Library

Secondary

NR

Programming

Occupants 3

Room Dimensions

Sq Ft Required: 200

No of Rooms Required: 1

Time and Days of Operation: M – F 0800 - 1700

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT 2 x 2
Walls	Std
Doors	N/R
Windows	Yes
Acoustics	N/R

Engineering

HVAC

Per Code

Plumbing

N/R

Electrical

Five wall mounted duplex receptacles coordinated with furniture layout.

Communications

Four dual jack outlets. Coordinate with desk locations and fax machine location.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 3 desks, chairs, 3 guest chairs,
6 file cabinets (6 drawer) & 1 work table

Equipment and Type

CPU at each desk
Space for fax machine

Remarks

Shared office space, one desk is reception

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Director's Office

E37

Relationships

Primary

Near E38, staff lounge

Secondary

Programming

Occupants 1 person

Room Dimensions

Sq Ft Required: 270

No of Rooms Required: 1

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Code

Plumbing

Per Code

Electrical

Five wall mounted duplex receptacles coordinated with furniture layout. Flush mounted j-boxes (2 total) with cover for future wiring for TV monitor connection to video camera in room E1 and future wiring for microphone (on desk) connection to amplifier located above ceiling in room E1.

Communications

Two dual jack outlets coordinated with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for desk, round table, file cabinets (3), bookcase & credenza

Equipment and Type

TV monitor connected to video camera in lobby or waiting room (See E1).

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Administration Office

E38

Relationships

Primary

Other Ed staff

Secondary

NR

Programming

Occupants 4 person

Room Dimensions

Sq Ft Required: 600

No of Rooms Required: 1

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Code

Plumbing

Per Code

Electrical

Five wall mounted duplex receptacles minimum coordinated with furniture layout.

Communications

Four dual jack outlets coordinated with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for desks, file cabinets & bookcases

Equipment and Type

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div Staff Office

Room Name: Counselors

E39 - 43

Relationships

Primary

Other Ed Staff

Secondary

NR

Programming

Occupants	1 person
Room Dimensions	
Sq Ft Required:	130 ea.
No of Rooms Required:	5
Time and Days of Operation:	
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Code

Plumbing

Per Code

Electrical

Four duplex receptacles. Flush mounted j-boxes (2 total) with cover for future wiring for TV monitor connection to video camera in room E1 and future wiring for microphone (on desk) connection to amplifier located above ceiling in room E1.

Communications

Two dual jack outlets coordinated with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for desk & chair, guest chairs, file cabinet & bookcase

Equipment and Type

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: 4 Colleges

Room Name: Private Offices

E44 – 47
E53 - 54

Relationships

Primary

Near classrooms

Secondary

NR

Programming

Occupants	1 to 5 persons
Room Dimensions	
Sq Ft Required:	2670 (See Remarks)
No of Rooms Required:	1 ea. w/ storage closet & 120 s.f. director's office
Time and Days of Operation:	M – F 0800 - 1700
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Code

Plumbing

Per Code

Electrical

General use duplex receptacles coordinated with furniture location

Communications

Rm E44 – five dual jack outlets, Rm E45 – eight dual jack outlets, Rm E46 – six dual jack outlets, Rms E47, E53, & E54 – three dual jack outlets. These are minimum requirements. Coordinate location with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for tables, file cabinet (1 per desk), desks & chairs,
guest chairs
Storage closet w/ book shelves in each area.

Equipment and Type

Space for copier & fax machine.

Remarks

Provide separate director's private office in each area except LSU, which is itself an office.

E44 (CMU) - 500SF
E45 (CTC) - 1100SF
E46 (UIU) - 660SF
E47 (LSU) - 150SF
E53,54 (Unassigned) – 130SF ea.

Lighting : 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Restrooms

E48 - 49

Relationships

Primary

NR

Secondary

NR

Programming

Occupancy ---

Room Dimensions

Sq Ft Required: 1000

No of Rooms Required: 1 ea.

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	Tile
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Code

Plumbing

Per Code

Electrical

GFCI duplex receptacle for every two sinks (minimum of one).

Communications

No requirements.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Split 1000 s. f. for plumbing fixtures & accessories for required male & female population.

Remarks

Lighting: 20 footcandles with additional lighting over mirrors.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Mechanical

E50

Relationships

Primary

NR

Secondary

NR

Programming

Occupants ---

Room Dimensions

Sq Ft Required: 750

No of Rooms Required: 1

Time and Days of Operation: 24 hrs.

Existing Area

Architecture

Flooring	Conc.
Ceiling	NR
Walls	CMU
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC
Per Code

Plumbing
Per Code

Electrical
One duplex receptacle per wall

Communications
One single jack (voice) outlet near door mounted 1220 mm AFF. See remarks for additional info.

Fire Alarm System
Manual pull station and combination audio/visual device. Smoke detector above fire alarm panel (unless fire alarm panel is in room L18).

Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Remarks

Lighting: 15 footcandles

Provide separate electrical closet/room as required.

Provide 27 mm conduit with pull wire between data terminal cabinet (and/or master direct digital control panel) and backboard in nearest (if more than one) telecommunications room. Also provide 27 mm conduit with pull wire between data terminal cabinet (and/or master direct digital control panel) and electrical meter located on secondary side of exterior service transformer.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Ed Div

Room Name: Janitor & Supply Rm

E51 - 52

Relationships

Primary

NR

Secondary

NR

Programming

Occupants ---

Room Dimensions

Sq Ft Required: 190 (See Remarks)

No of Rooms Required: 2

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	Tile
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

Per Code

Plumbing

Per Code

Electrical

One duplex receptacle in E50 and two in E51.

Communications

No requirements

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Provide storage shelving on both rooms.

Remarks

E50 Janitor – 70SF
E51 Supply Rm – 120SF

Lighting: 10 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: MSP Training Administration Office

G1

Relationships

Primary

Other G3 staff

Secondary

Near G3 classrooms

Programming

Occupants	3
Room Dimensions	
Sq Ft Required:	390
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	NR
Ceiling	NR
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Seven duplex receptacles minimum.

Communications

Five dual jack outlets minimum coordinated with furniture layout.

Fire Alarm System

As required per NFPA and ADA

Furnishings

Furniture

Space for Desks w/ chairs, bookcases, file cabinets and typing table.

Equipment and Type

Space for computer w/ table, adding machine & typewriter.

Remarks

Lighting level: 50 footcandles

Trng Coord	120 sf
Trng Tech (2)	150 sf
File Rm	120 sf

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: Office Auto Clerk

G2

Relationships

Primary

Other G3 staff

Secondary

NR

Programming

Occupancts	1
Room Dimensions	
Sq Ft Required:	100
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Four duplex receptacles minimum

Communications

Two dual jack outlets coordinated with furniture layout

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for desk w/ chair, bookcases, file cabinet.

Equipment and Type

Space for computer w/ printer, adding machine, typewriter & fax machine.

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: MOS Contractor

G3

Relationships

Primary

Near other G3 staff

Secondary

Near classrooms

Programming

Occupants	2
Room Dimensions	
Sq Ft Required:	150
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Std
Doors	NR
Windows	2 windows
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Five duplex receptacles minimum

Communications

Three dual jack outlets minimum coordinated with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for two desks w/ chairs, file cabinets (4), Bookcases & conference table.

Equipment and Type

Space for computer w/ printer, fax machine & adding machine.

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: Classrooms

G4 - 9

Relationships

Primary

In general classroom area

Secondary

Access to Ed Ctr classrooms

Programming

Occupants 30 students / 2 instructors

Room Dimensions

Sq Ft Required: 900 ea.

No of Rooms Required: 6

Time and Days of Operation: M – F 0800 - 1700

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Duplex receptacle above ceiling for future ceiling mounted projector. Three duplex receptacles in front of room - one near right corner (facing front of classroom), one centered, and one adjacent to TV mounting bracket.

Communications

Dual jack outlet located near corner duplex receptacle. Dual jack (for satellite and CATV) TV outlet adjacent to TV mounting bracket.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 15 tables & 30 student chairs, 1 teacher desk,
2 teacher chairs, bookcases & file cabinet.

Provide small break area / in back of room w/ sink.

Equipment and Type

Space overhead projector
Dry Erase Marker Board
Projector Screen
Space for computer with printer & multi media projector.

Remarks

Storage in back of room (at least 25 s.f.).

Lighting: 50 footcandles

Provide proper structural support in ceiling for future multi media projector to be provided by others. In addition, provide all necessary conduit (with pull wire) and j-boxes to allow for future installation of wiring between projector and a CPU to be located in front corner of room.

Provide mounting bracket on wall near ceiling to the right of projection screen to accommodate a 27 inch TV and a separate VCR.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: General Storage

G10, 17

Relationships

Primary

Near G3 admin area

Secondary

Near classrooms

Programming

Occupants	0
Room Dimensions	
Sq Ft Required:	150
No of Rooms Required:	1 ea.
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	Tile
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC
NR

Plumbing
NR

Electrical
No requirements

Communications
No requirements

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Space for storage cabinets.

Equipment and Type

Remarks

Needs shelves to store textbooks, video tapes, support equipment, cleaning supplies, etc.

Shelves should be on 3 of 4 walls.

One storage for ADLP another for MilSchools.

Lighting: 10 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: ADLP File Room

G18

Relationships

Primary

Near G3 admin area

Secondary

NR

Programming

Occupants 0

Room Dimensions

Sq Ft Required: 120

No of Rooms Required: 1 ea.

Time and Days of Operation: M – F 0800 - 1630

Existing Area

Architecture

Flooring	Tile
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Duplex receptacles

Communications

Dual jack outlet coordinated with scanner and plotter locations.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for file cabinets

Equipment and Type

5’ long x 3’ deep x 3’ tall scanner

4’ long x 2’ deep x 4’ tall plotter

Remarks

Lighting: 30 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: Copy Room

G11, 19

Relationships

Primary

Near G3 admin area

Secondary

NR

Programming

Occupants	0
Room Dimensions	
Sq Ft Required:	50
No of Rooms Required:	1 ea.
Time and Days of Operation:	M – F 0800 - 1630
Existing Area	

Architecture

Flooring	Tile
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Two duplex receptacles minimum

Communications

One dual jack outlet

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Space for one copier, table (30” x 72”)

Remarks

One room for ADLP, another for MilSchools.

Lighting: 20 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: ADLP Administrator

G12

Relationships

Primary

Near other G3 staff

Secondary

Near ADLP classrooms

Programming

Occupants	1
Room Dimensions	
Sq Ft Required:	120
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1700
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Three duplex receptacles minimum

Communications

Two dual jack outlets coordinated with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for desk w/ chair, bookcases & file cabinets.

Equipment and Type

Space for computer w/ printer, adding machine & wide mouth scanner, plotter.

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: ADLP Assistant Office

G13

Relationships

Primary

Near G12, other G3 staff

Secondary

Near ADLP classrooms

Programming

Occupants	1
Room Dimensions	
Sq Ft Required:	100
No of Rooms Required:	1
Time and Days of Operation:	M – F 0800 - 1700
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC

NR

Plumbing

NR

Electrical

Four duplex receptacles minimum

Communications

Two dual jack outlets coordinated with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for desk w/ chair & file cabinets.

Equipment and Type

Space for computer w/ printer & adding machine.

Remarks

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: Distance Learning Classrooms

G14 - 16

Relationships

Primary

In general classroom area

Secondary

Access to Ed Ctr classroom area

Programming

Occupants 17 (16 students and 1 instructor)

Room Dimensions

Sq Ft Required: 700

No of Rooms Required: 3

Time and Days of Operation: M – F 0800 - 1700

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Std
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC	NR
Plumbing	NR

Electrical
17 recessed floor boxes containing a duplex receptacle, two 8-pin modular jacks, and room for microphone cable. Wall mounted quadraplex receptacle and dual 8-pin modular jack centered in front of room for user provided and installed VTEL system.

Communications
In addition to electrical above, provide two wall mounted dual jack outlets.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Space for 17 computer workstations, 1 VTEL System, fax machine, cabinets & servers.

Remarks

A path between each recessed box and VTEL system is required for future installation of microphone cables.

During design phase contractor shall visit existing ADLP classrooms on Ft. Polk to obtain all essential information for complete design requirements. Particularly spacing information for recessed boxes.

Lighting: 50 footcandles. Lighting shall be controlled by two dimmer switches (one switch for fixtures in front half of room and one for back half) and fixture layout shall be coordinated with workstation locations to minimize blooming (VTEL system has a video camera that can focus on each student at each workstation).

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: Janitor

G20

Relationships

Primary

NR

Secondary

NR

Programming

Occupants NR

Room Dimensions

Sq Ft Required: 55

No of Rooms Required: NR

Time and Days of Operation: NR

Existing Area

Architecture

Flooring	---
Ceiling	---
Walls	---
Doors	---
Windows	---
Acoustics	---

Engineering

HVAC

NR

Plumbing

NR

Electrical

One duplex receptacle

Communications

No requirements

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Provide storage shelving.

Equipment and Type

Remarks

Lighting: 10 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: ADLP / Mil Schools

Room Name: Restrooms

G21 - 22

Relationships

Primary

NR

Secondary

NR

Programming

Occupants NR

Room Dimensions

Sq Ft Required: 370

No of Rooms Required: NR

Time and Days of Operation: NR

Existing Area

Architecture

Flooring	---
Ceiling	---
Walls	---
Doors	---
Windows	---
Acoustics	---

Engineering

HVAC

NR

Plumbing

NR

Electrical

One GFCI receptacle for every two sinks (one minimum).

Communications

No requirements

Fire Alarm System

Furnishings

Furniture

Equipment and Type

Remarks

Lighting: 20 footcandles with additional lighting above mirrors.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Entrance & Lobby Area

L1

Relationships

Primary

Access to other lobby areas in Ed Ctr

Secondary

Programming

Occupants	---
Room Dimensions	10 x 16 approx.
Sq Ft Required:	150
No of Rooms Required:	NR

Time and Days of Operation: 7 days, 0800 - 2000

Existing Area

Architecture

Flooring	Tile
Ceiling	ACT
Walls	CMU
Doors	NR
Windows	NR
Acoustics	Ambient PNC 50 DB (90)

Engineering

HVAC	Per Code
Plumbing	NR

Electrical

Duplex receptacle(s). Public address speaker.

Communications

Single jack outlet for pay phone.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Display Glass Cases / Signage

Equipment and Type

Drinking Fountains

Remarks

Must be located adjacent to circulation desk area. Must be accessible to public rest rooms.

Handicapped accessible. Contains internal after hours book drop.

High traffic area.

Convenient to parking area.

Lighting: 10 footcandles. Additional lighting for display case.

Provide an after-hours book drop on outside wall.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Shipping & Receiving

L2

Relationships

Primary

Adjacent to Technical Services
& Loading Dock

Secondary

Programming

Occupants	---
Room Dimensions	15 x 20 approx.
Sq Ft Required:	250
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000

Existing Area

Architecture

Flooring	Tile
Ceiling	NR
Walls	NR
Doors	NR
Windows	NR
Acoustics	Ambient PNC 40 DB (85)

Engineering

HVAC
Per Code

Plumbing
NR

Electrical
Duplex receptacle(s)

Communications
No voice or data jack requirements.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Storage area bins and cabinets.

Shelves for sorting.

Equipment and Type

Remarks

Shipping and receiving area is required for delivery of boxes, equipment, supplies, etc. It is used for storage unpacking, and transporting items.

MAIL BAGS WEIGHING 150LBS.

LOADING DOCK REQUIREMENTS.

Provide door bell buzzer. Buzzer control shall be located on outside wall in docking area. Buzzer shall ring in Technical Services and Librarian's Office.

Lighting: 60 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Circulation Desk / Control Area

L3

Relationships

Primary

Next to lobby/entry area

Secondary

Programming

Occupants	6-person workstation
Room Dimensions	20 x 25 approx.
Sq Ft Required:	400
No of Rooms Required:	NR

Time and Days of Operation: 7 days, 0800 - 2000

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Wallboard
Doors	---
Windows	Yes, UAVB
Acoustics	PNC 35 DB (80)

Engineering

HVAC	Per Code
Plumbing	NR

Electrical

Recessed floor duplex receptacles for 6 CPU's located on circulation desk and 20 online public access catalog CPU's located throughout control area. Some of the access catalog CPU's may be powered from wall receptacles. Also, general use duplex receptacles located throughout space.

Communications

Dual jack outlet in same recessed floor box as CPU receptacles. One recessed floor TV outlet at circulation desk.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Circulation Desk
13 Single Shelving Units
15 Book Trucks
Stands for catalog CPU's

Equipment and Type

6 CPU's located on control desk

20 online public access catalog CPU's

Copier

Remarks

All customers using the library must pass through this area. Customers checking in and out materials. This is also a work area for simple repairs, processing overdue books, and receiving books that are being returned.

Provide public address system control at circulation desk.

Lighting: 60 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Staff Lounge and Kitchen

L4

Relationships

Primary

Near librarian's office

Secondary

Near Tech Services area

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	400
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT
Walls	Brick, painted
Doors	NR
Windows	NR
Acoustics	Ambient PNC 50 DB (90)

Engineering

HVAC
Per Code

Plumbing
NR

Electrical
General purpose duplex receptacles, and receptacles for stove and vending machines.

Communications
One dual jack outlet

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Space for sofas, lounge chairs, chairs and tables,

Unit Kitchen

Equipment and Type

Space for Stove

Space for 2 vending machines

Remarks

Staff lounge area should be provided for breaks, eating, relaxation, and staff meetings.

A kitchenette in the lounge for preparation of heating food is desirable.

The staff lounge should be located close to the technical services, administrative and circulation desk areas.

Lighting: 60 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Librarian's Office

L5

Relationships

Primary

Near Control Area

Secondary

Near Tech Services

Programming

Occupants	3 persons
Room Dimensions	15 x 20 approx.
Sq Ft Required:	300
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000

Existing Area

Architecture

Flooring	CPT
Ceiling	DWB / Plaster or ACT
Walls	CMU & Paint
Doors	2 or 3
Windows	Yes, UAVB, draperies
Acoustics	Ambient PNC 50, DB (80)

Engineering

HVAC

Per Code

Plumbing

NR

Electrical

Duplex receptacles matching furniture layout plus general purpose receptacles.

Communications

Four dual jack outlets minimum. Coordinate with furniture layout. Two dual jack (for satellite and CATV) TV outlets.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 3 desks, 3chairs, credenza, 1 sofa, library shelves.

Space for Computer Furniture & Conference Table. Storage Room / Closet for chairs.

Equipment and Type

Space for Computers, Typewriters, Printers, Fax Machines, Telephones, Copier, TV / Video / DVD

Remarks

Librarian's office required for library consultation, staff counseling, short meetings with vendors, etc. Sound isolation for confidential conversation between visitors. Restroom adjacent to staff restrooms / or solitary restroom.

DG110-5-1110 ARMY CORPS OF ENGINEERS DESIGN ARMY LIBRARIES AR 415-20, TM 5-800.3

Provide public address system control.

Provide doorbell buzzer. Buzzer activated from loading lock.

Lighting: 60 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Stack Area

L6

Relationships

Primary

Central location, visible from control area

Secondary

Access from all reading areas

Programming

Occupants	70
Room Dimensions	
Sq Ft Required:	3,500
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT
Ceiling	Lighting fixtures parallel to stacks for better lighting.
Walls	DW or Plaster
Doors	NR
Windows	NR
Acoustics	Ambient PNC 50 DB (90)

Engineering

HVAC	Per Code
Plumbing	NR

Electrical
Some of the floor mounted receptacles for the online public access catalog CPU's may be located in this area.

Communications
Dual jack outlets if recessed electrical outlets provided.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Shelving double faced units 11 capacity for large books, 60" wide for flat newspapers.

Space for Tables / chairs

Space for Working Desk

Equipment and Type

Possibly online public access CPU's depending on Proposer's design.

Remarks

Over 10,000 books, videos, tapes, other library materials.
Shelving is non-fiction and fiction. 42 inches wide between shelves per ADA.
Book trucks must be able to go between shelves down the aisles.

Must be visible from circulation desk. Extremely well lighted area.

Lighting: 60 footcandles. Do not locate fixtures over shelving.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Children's Room

L7

Relationships

Primary

Next to control area

Secondary

NR

Programming

Occupants	50 persons
Room Dimensions	
Sq Ft Required:	1000
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT
Ceiling	NR
Walls	Wallboard / Plaster
Doors	NR
Windows	NR
Acoustics	Ambient PNC 40 DB (90)

Engineering

HVAC

Per Code

Plumbing

NR

Electrical

Duplex receptacles for CPU's.

Communications

Dual jack outlet for each CPU.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

30 Capacity Shelving double faced units 11 high magazines / videos

Space for Tables / Chairs for 50 children

Equipment and Type

Display Shelves by 20 x 40

5 CPU's

Remarks

Lighting: 60 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Technical Services

L8

Relationships

Primary

Next to shipping & receiving

Secondary

Near control area & librarian

Programming

Occupants	10
Room Dimensions	
Sq Ft Required:	2100
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT
Walls	NR
Doors	NR
Windows	NR
Acoustics	Ambient PNC 45 DB (80)

Engineering

HVAC	Per Code
Plumbing	Wash Basin

Electrical
General purpose duplex receptacles in addition to those adjacent to communication outlets.

Communications
Nine dual jack outlets. Provide five based on furniture layout and four as stated in remarks. One CATV outlet.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture
20 Book Trucks, 12 Shelves Steel double faced 5 inches, 5 work tables, 5 desks, 5 book cabinets, drafting table, supply cabinet, file cabinets

Work counter including sink.

Space for computer furniture, storage cabinets, wall storage cabinets

Equipment and Type

6 CPU's

Remarks

Technical Service is workplace of the library. Activities are ordering books, videos, etc.
Processing new materials and out going materials, physically and binding, cataloging, and computer repair. The technical services staff requires washbasins, basins.

Lighting: 60 footcandles

Four of the communications outlets shall be located in a 100 Sq Ft portion of the room designated as a LAN server area. Locate two in wall and two in floor 10 feet from wall.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Military Reading Room

L9

Relationships

Primary

NR

Secondary

NR

Programming

Occupants	15
Room Dimensions	
Sq Ft Required:	750
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT
Ceiling	ACT
Walls	DW or Plaster
Doors	NR
Windows	UAVB
Acoustics	Ambient 45, DB 90

Engineering

HVAC
Per Code

Plumbing
NR

Electrical
General purpose duplex receptacle(s) in addition to those located next to communication outlets.

Communications
Five dual jack outlets for CPU's.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Space for Sofa, Lounge Seating
Space for Tables, 10 shelves steel
Double wide / Single / Display Case, Magazine Shelves, Video Shelves, Computer Furniture

Equipment and Type

Space for five CPU's

Remarks

Specifically dedicated to Military Books, Periodicals, Newspapers, etc. needed for Military Research.

Military Reading Room is also used as a small museum dedicated to Ft. Polk's history.

Lighting: 75 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Periodical Room

L10

Relationships

Primary

Near control area

Secondary

NR

Programming

Occupants	30 persons
Room Dimensions	
Sq Ft Required:	600
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT
Ceiling	NR
Walls	NR
Doors	NR
Windows	NR
Acoustics	Ambient PNC 50 DB (90)

Engineering

HVAC
Per Code

Plumbing
NR

Electrical
General purpose duplex receptacles.

Communications
No voice or data jack requirements.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Periodical Shelves
Newspaper Racks
Reader Printers
Microfilm Storage
Flat Shelves for Newspapers
Space for Sofa / Lounge Chairs, Tables

Equipment and Type

Display Shelves by 20 x 40

Remarks

Periodicals area should be visible from the circulation desk. Shelving for current issues of periodicals up to one year old. Older issues are maintained in the back issues of storage periodical area.

600 newspapers and magazines.

Lighting: 60 footcandles. Do not place lighting fixtures over shelves.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Reference Area

L11

Relationships

Primary

Near control area

Secondary

NR

Programming

Occupants 20

Room Dimensions

Sq Ft Required: 1000

No of Rooms Required: 1

Time and Days of Operation: 7 days, 0800 - 2000

Existing Area

Architecture

Flooring	CPT
Ceiling	ACT
Walls	WB / Brick
Doors	Indoor
Windows	NR
Acoustics	Ambient PNC 40 DB (85)

Engineering

HVAC

Per Code

Plumbing

NR

Electrical

Duplex receptacles for CPU's and general purpose.

Communications

Twelve dual jack outlets for CPU's

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Shelving –15. Index table

Space for Seating tables and chairs, lounge seating, computer furniture, map case, atlas case, dictionary stand, globe stand, 12 study carrels.

Equipment and Type

12 CPU's

Remarks

Reference materials are non-circulating and are used immediately. Reference books tend to be large and heavy, therefore, tables should be 4 feet wide and 3 linear feet per person in length. Desk is needed for reference librarian. Reference room needs to be near circulation area, so that staff can help customers when librarian is not available.

Lighting: 60 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Reading / Study Areas

L12

Relationships

Primary

Accessible to/from stack areas

Secondary

Programming

Occupants	30
Room Dimensions	
Sq Ft Required:	1,500
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000

Existing Area

Architecture

Flooring	CPT
Ceiling	NR
Walls	DW
Doors	NR
Windows	NR
Acoustics	Ambient PNC 40 DB (90)

Engineering

HVAC

Per Code

Plumbing

NR

Electrical

Recessed floor and wall duplex receptacles for CPU's. Coordinate location with furniture layout. Also, general purpose receptacles.

Communications

Ten dual jack outlets coordinated with furniture layout.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Space for 30 Rectangular Tables / Chairs, lounge seating.

15 Study Carrells, end tables, display area for books.

Equipment and Type

10 CPU's. CPU's will be on tables both against the wall and in middle of room.

Remarks

Reading area and study area needed for research, homework assignments, and casual reading.

Lighting: 75 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Storage Room

L13

Relationships

Primary

Next to Tech Services area

Secondary

Near stack areas

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	1,000
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT
Ceiling	NR
Walls	DW or Plaster
Doors	NR
Windows	NR
Acoustics	Ambient PNC 40 DB (90)

Engineering

HVAC

Per Code

Plumbing

NR

Electrical

Three duplex receptacles minimum. Two for CPU's.

Communications

Two dual jack outlets for CPU's.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Shelving double faced units 11 capacity for large books, 60" wide for flat newspapers.

Space for maximum amount of Tables / chairs, Working Desk

Equipment and Type

Space for 2 CPU's used for inventory

Remarks

DG1110-3-110 ARMY CORPS OF ENGINEERS DESIGN FOR ARMY LIBRARIES.

Lighting: 50 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Multi-Media

L14

Relationships

Primary

Near Tech Services & Storage areas

Secondary

Programming

Occupants	22
Room Dimensions	
Sq Ft Required:	1,100
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT
Ceiling	NR
Walls	DW
Doors	NR
Windows	NR
Acoustics	Ambient PNC 40 DB (90)

Engineering

HVAC	Per Code
Plumbing	NR

Electrical
Wall mounted and recessed floor mounted duplex receptacles as required based on furniture and equipment layout. In addition, all other power required for equipment or furniture.

Communications
Wall mounted and recessed floor mounted dual jack outlets and TV outlets as required based on furniture and equipment layout.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Space for Listening Booths (3 min.), Computer Furniture, Chairs, Shelves, Storage Closets, 3 Desks, TV Tables, and Chairs

Equipment and Type

Space for CPU's and Printers,
10 CD Players & Video / DVD
Copier

Remarks

DG 1110-3-110 DESIGN GUIDE FOR ARMY LIBRARIES

Lighting: 50 footcandles with dimming capability.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Telecommunications Closet

L15

Relationships

Primary

Near service areas

Secondary

NR

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	120
No of Rooms Required:	designer cloice
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	CPT or Concrete
Ceiling	ACT
Walls	NR
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC
See remarks

Plumbing
NR

Electrical
Same as room E4.

Communications
Same as room E4.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Remarks

Lighting: 50 footcandles

Room temperature shall be conditioned utilizing a mechanical system that is independent of the facility's central HVAC system. A thermostat inside the room shall control the temperature.

Space may be combined with room E4 if designer chooses.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Restrooms & Lockers

L16 - 17

Relationships

Primary

Next to entry lobby

Secondary

NR

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	350
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	Tile
Ceiling	ACT
Walls	Brick, painted
Doors	NR
Windows	NR
Acoustics	Ambient PNC 35 DB (35)

Engineering

HVAC	Per Code
Plumbing	Per Code

Electrical
One GFCI receptacle for every two sinks (one minimum).

Communications

No voice or data jack requirements.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Diaper Layette
Utility Closet

Equipment and Type

Provide number of fixtures as required for population.

Remarks

HANDICAPPED ACCESSIBLE

Lighting: 20 footcandles with additional lighting over mirrors.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Mechanical

L18

Relationships

Primary

NR

Secondary

NR

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	255
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	Concrete
Ceiling	NR
Walls	NR
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC	Per Code
Plumbing	NR

Electrical
One duplex receptacle per wall.

Communications
One voice jack near door.

Fire Alarm System
One combination audible/visual device and one manual pull station adjacent to exterior door. Fire alarm panel and transmitter.

Furnishings

Furniture

Equipment and Type

Remarks

Lighting: 15 footcandles

Provide only one fire alarm panel and one transmitter for facility. Fire alarm panel may be provided in other mechanical room if designer so chooses.

Provide a separate electrical closet/room as required.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Janitorial / Storage Supply Room

L19

Relationships

Primary

NR

Secondary

NR

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	50
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	Concrete
Ceiling	ACT
Walls	NR
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC
Per Code

Plumbing
NR

Electrical
One duplex receptacle

Communications
No requirements including public address.

Fire Alarm System
Per NFPA and ADA

Furnishings

Furniture

Provide storage shelving.

Equipment and Type

Remarks

For storage of cleaning supplies, and equipment of library..

Lighting: 15 footcandles

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Staff Toilet & Lockers (see remarks)

L20

Relationships

Primary

Near staff areas

Secondary

NR

Programming

Occupants ---

Room Dimensions

Sq Ft Required: 100

No of Rooms Required: 1

Time and Days of Operation: 7 days, 0800 - 2000

Existing Area

Architecture

Flooring	Tile
Ceiling	NR
Walls	NR
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC Per Code

Plumbing NR

Electrical

One GFCI receptacle for every sink (minimum of one)

Communications

No voice or data jack requirements.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Remarks

This will be a “unisex” toilet. Provide adequate number of lockers for staff members.

Lighting: 20 footcandles with additional lighting above mirrors.

Library & Ed Cntr, Fort Polk, LA

Room Requirements

Department: Library

Room Name: Coffee Bar

L21

Relationships

Primary

In general lobby area

Secondary

NR

Programming

Occupants	---
Room Dimensions	
Sq Ft Required:	120*
No of Rooms Required:	1
Time and Days of Operation:	7 days, 0800 - 2000
Existing Area	

Architecture

Flooring	Tile
Ceiling	NR
Walls	NR
Doors	NR
Windows	NR
Acoustics	NR

Engineering

HVAC	Per Code
Plumbing	NR

Electrical

One GFCI receptacle for every sink (minimum of one)

Communications

No voice or data jack requirements.

Fire Alarm System

Per NFPA and ADA

Furnishings

Furniture

Equipment and Type

Remarks

*The coffee bar will be operated by a different entity and will be located in the general lobby area. Designer builder will further investigate the feasibility and desirability of this function. Although the space has been given an “L” function, it does not bear any subordination to the library function. As part of the coffee bar function, patrons may purchase and/or read books (not library owned) in this area.

WEST SIDE OF COLORADO, AVE.

WATER FLOW TEST

For use of this form, see AR 420-90; the proponent agency is USACE

LOCATION: 500 BLK of Ft. Polk

DATE: 17 Apr 02

HYDRANT NUMBER	OUTLET DIAMETER (Inches)	PITOT PRESSURES (PSI)	DISCHARGE (Gallons per Minute)
61	2½	40	1061
66			
67			

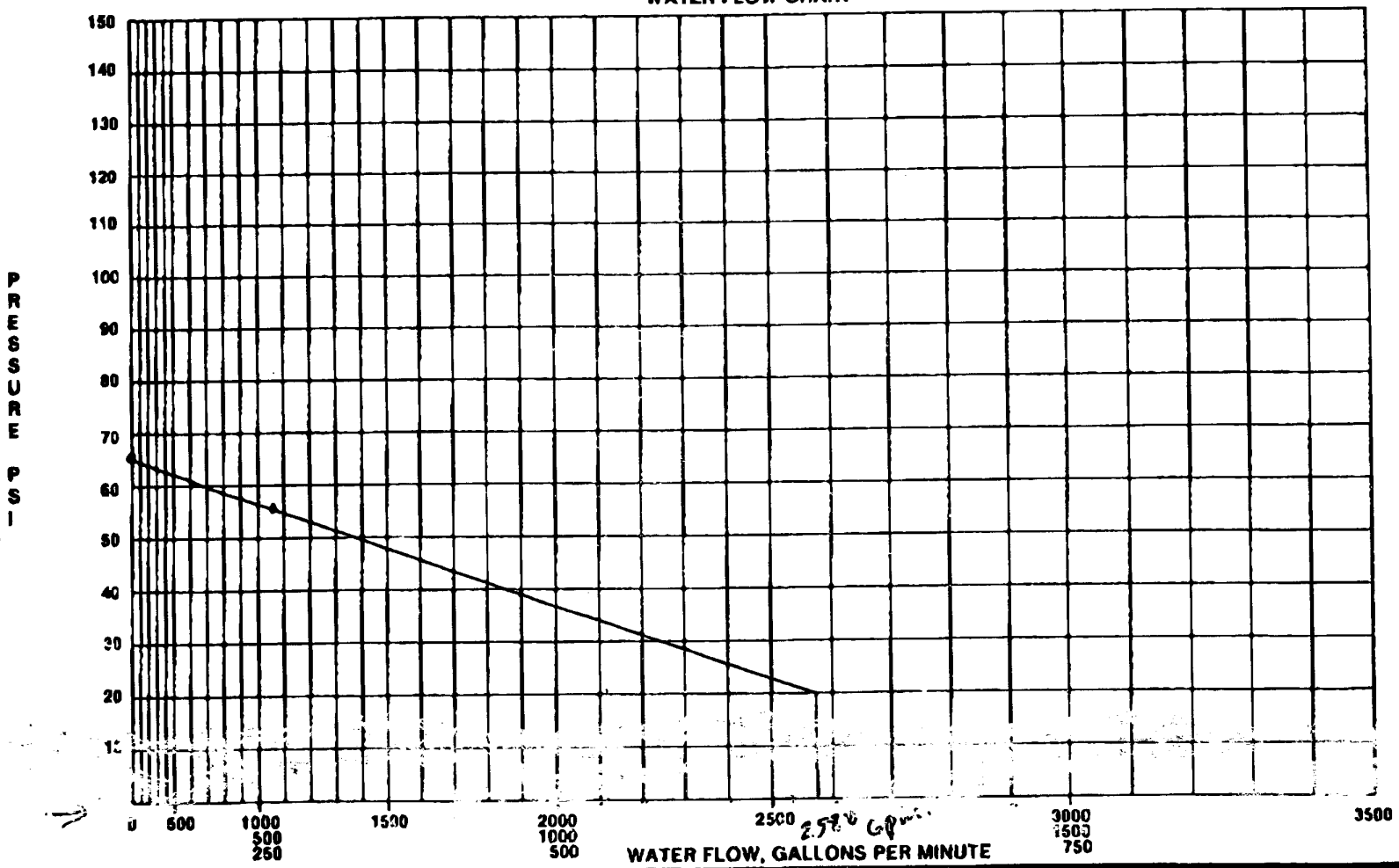
STATIC PSI: 66

RESIDUAL PSI: 56

TOTAL DISCHARGE DURING TEST (Gallons per Minute): 1061

AVAILABLE GALLONS PER MINUTE (At 20 PSIe): 2580 GPM.

WATER FLOW CHART



DA FORM 5384-R, SEP 92

EDITION OF JAN 85 IS OBSOLETE

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-02-R-0007